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The future of this game's so bright we've got to wear mirrorshades...

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Battle of the bards.

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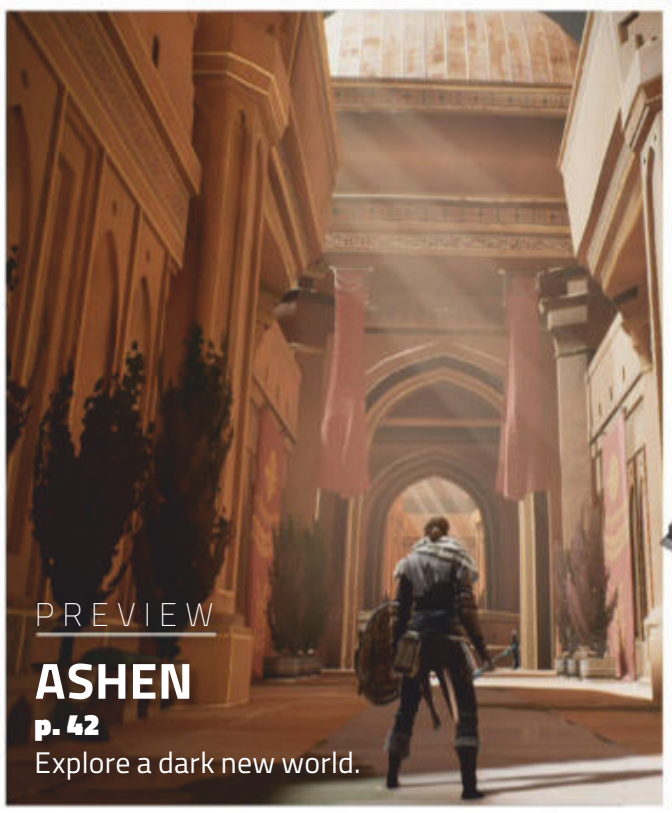
Frenemies at the gates.



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ASSASSIN'S CREED ODYSSEY

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EVERYTHING OLD IS NEW AGAIN...

One of my favourite things in this job is when I can peel back some of the more interesting history behind a video game, and there are few games with as rich a history as Cyberpunk 2077.

It's our cover feature this issue, and on top of diving into what the game itself promises - hint: quite a lot, by the look of it - I've indulged myself with bit of a look at the tabletop history that the video game is building upon, from its beginnings in 1988 up to a new edition coming out... some time 'real soon now'. Tabletop games have inspired a lot of PC gaming, from those early dungeon crawlers on, but the case with Cyberpunk is particularly interesting, because the same guy behind that first game back in 1988 - Mike Pondsmith - is working closely with CD Projekt Red on the new 2077 title.

And it's no coincidence that his publishing company, R. Talsorian Games, is working on a tabletop game based on The Witcher... Anyway, enough from me, you've got another packed issue to get into!

David Hollingworth
Editor
@CptHollingworth

"Y'all got a really nice set of cybernetics there, boy!"

PC PowerPlay
AUSTRALIA'S #1 PC GAMING MAG
SINCE 1996

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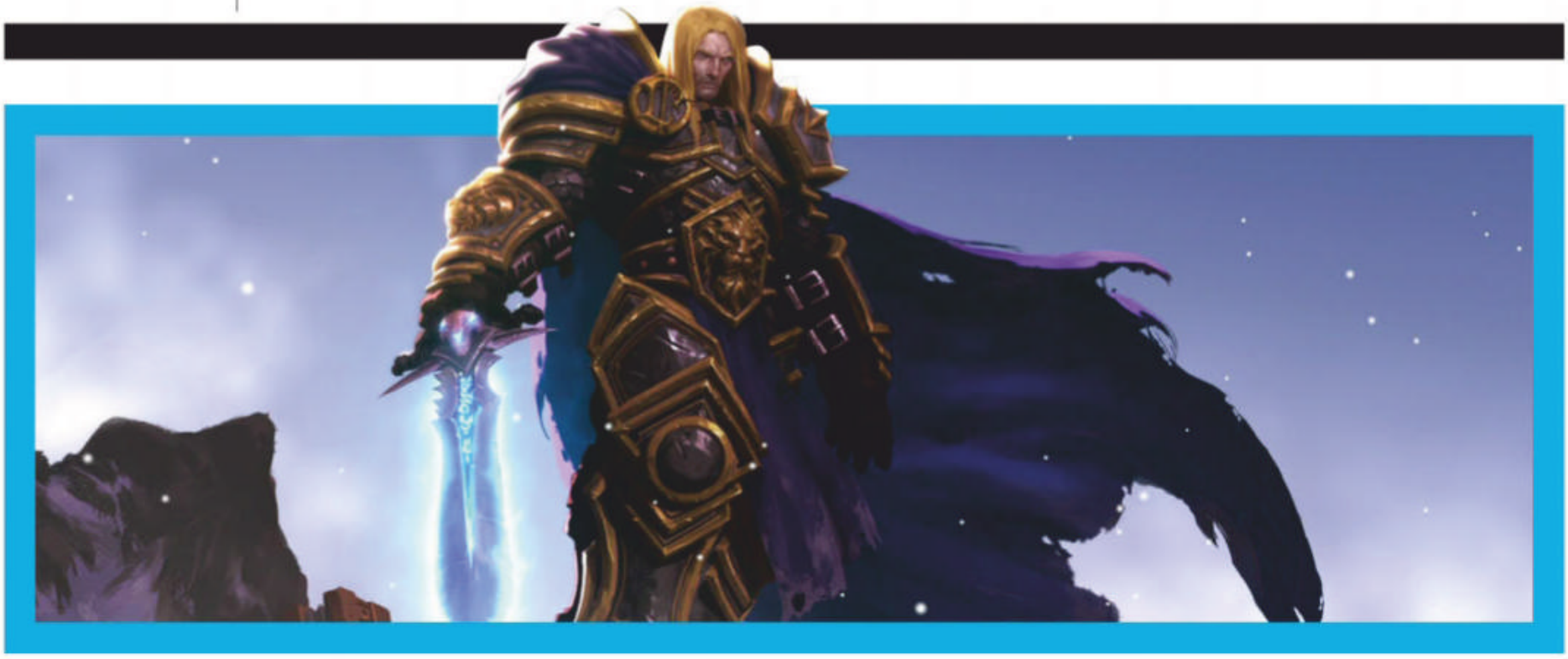

BLIZZARD IS REPORTEDLY WORKING ON A POKÉMON GO-STYLE GAME BASED ON WARCRAFT

Despite the negative reaction to Diablo Immortal, there's real enthusiasm for mobile game development at Blizzard.

A big investigative report on "the past, present, and future of Diablo" on Kotaku recently dug into the development history of Diablo 4 and also the state of things at Blizzard. It was presumably spurred by the backlash against Diablo Immortal, a mobile game announced- to great derision - at Blizzcon. And hidden in its midst is a reference to another mobile game in the works, based on a different Blizzard game that you may have heard of: Warcraft.

Diablo devotees were disappointed by the Immortal announcement, but a source told Kotaku that Blizzard employees are generally very enthusiastic about it, and about mobile games in general. "The reaction inside the company to Immortal is very different than the reaction outside the company," the source said. "Part of the thinking on a lot of these is, people want to work on smaller projects"

Pokémon Go is popular among staffers, and Blizzard's famous, massive Orc statue is a Pokéstop that sees a lot of action. And while I don't think it's the most obvious pairing of all time, someone decided to put the two of them together, and a Blizzard "incubation team" is now working on a Warcraft game styled after Pokémon Go.

THE LATEST STAR CITIZEN UPDATE LETS YOU EXPLORE THE SIM'S FIRST WORLD

And a bunch of moons.

Ahead of Star Citizen's free week, the space sim's very first planet has gone live, along with VOIP and the fancy face-tracking integration. Everyone will be able to check out Hurston and the city of Lorville on Friday, but for now only people who have bought the game can start exploring.

Hurston is much larger than the moons that players have previously been able to explore and contains multiple biomes, mining centres and a single city. When you land in Lorville, you'll be using the city's transit system to get around, letting you sit back and soak in some flashy views.

If you're stuck waiting until Friday, you can still watch Chris Roberts' guided tour of Lorville and Hurston from CitizenCon.

Players have already started posting their own videos, like this cracking view of Lorville from a landing passenger ship. The nose dip is a wee bit intense, though.

Orbiting Hurston are a bunch of new moons, too, all with a handful of outposts that you can visit. New missions are also available, letting pilots risk life and limb in death races both in space and on the surface of moons. Pilots need to race over or shoot checkpoints to get points towards victory, but they can also shoot other racers. Not very sporting, but space is a tough place.

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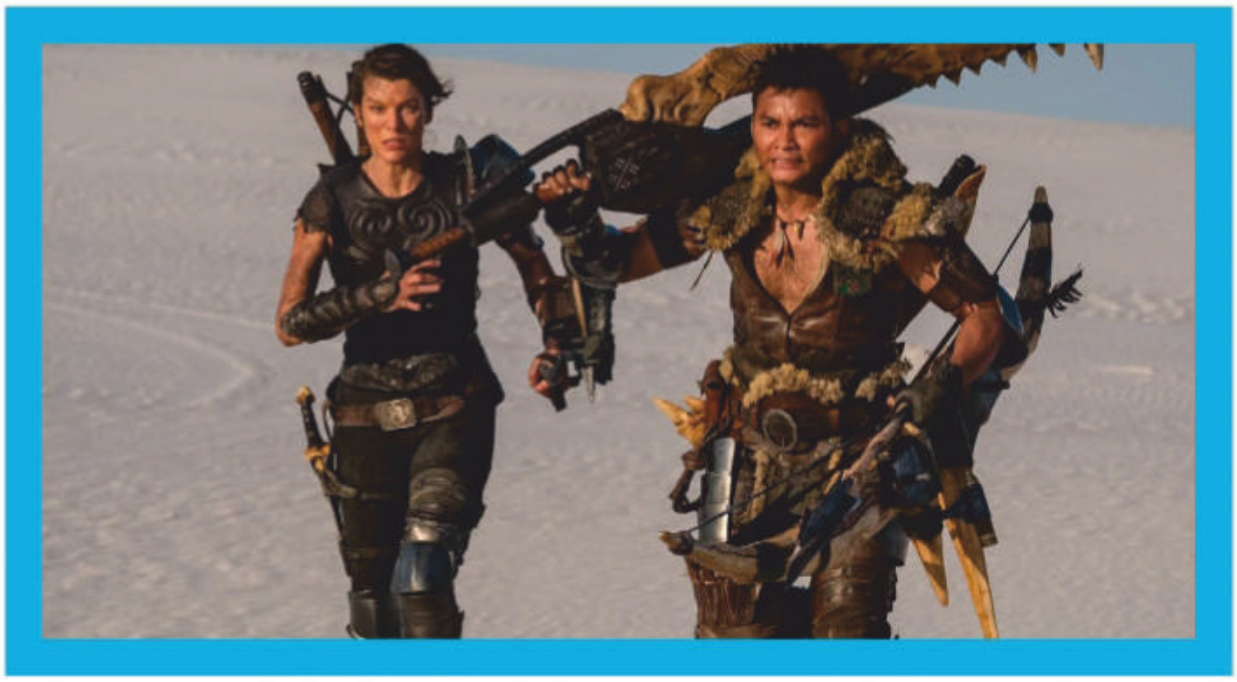
THE MONSTER HUNTER MOVIE ACTUALLY LOOKS LIKE THE GAMES IN A NEW PHOTO

Tony Jaa's Field Team Leader cosplay is flawless.



The first pictures to come out of the Monster Hunter film adaptation were not particularly reassuring, with Milla Jovovich posting Monster Hunter set photos of her hanging out with fellow cast members decked out military uniforms. There wasn't an oversized sword in sight. The latest photo, however, couldn't come from anything other than Monster Hunter.

It shows Jovovich as Natalie Artemis, this time no longer decked out in modern military gear, accompanied by Tony Jaa, who looks almost exactly like Monster Hunter: World's Field Team Leader, right down to the ridiculous Giant Jawblade.

Artemis' gear is equally inspired by Monster Hunter World, and you might recognise the swirly pattern on her top from the Odogaron chest piece, specifically the male version, from the game. And yes, that's a slinger that she's got strapped to her arm. She's not wearing a specific armour set, instead opting for a mix, obviously going for the pieces with the best stats.

The desert they're running through, South Africa's Atlantis Dunes, is meant to evoke Wildspire Wastes. Artemis will be traipsing across more than just the desert, however, and will visit different locations that might look familiar to players.

So, at least it looks the part, which puts it well in front of a lot of terrible video game adaptations.

WORLD OF WARCRAFT'S MOST INFAMOUS DISASTER IS BECOMING A HEARTHSTONE CARD

The upcoming Rastakhan's Rumble will pay homage to Hakkar the Soulflayer and the Corrupted Blood incident.

Few moments are as memorable in all of World of Warcraft history as the Corrupted Blood Incident. On September 13, 2005, a player returned from the grueling new Zul'Gurub raid and summoned his pet in one of Azeroth's capital cities only to find that, due to a bug, the pet had acquired a debuff that wasn't supposed to exist outside of the raid.

Called Corrupted Blood, this negative effect would deal constant damage to its target until they died—but even worse was the fact that it was highly contagious. Anyone within a certain range of an infected player automatically contracted the disease and soon died. In a matter of hours, World of Warcraft's capital cities had become ground zero of a deadly plague, and they stayed that way for over a week.

"It was all unintentional, it was just a bug," Blizzard chief of staff Shane Dabiri told us in our feature where Blizzard devs reflected on the Corrupted Blood Incident and other disastrous moments in WoW's history.

And now, 13 years later, Hearthstone is finally paying tribute to that cataclysmic moment in its own, cool way. Meek Hakkar, the Soulflayer, the boss from which corrupted blood originated, now transformed into a Hearthstone card.

The idea here is that, with enough unlucky draws, a player could fill their deck up Corrupted Blood and eventually—like WoW players of yore—fall victim to it. It's not clear exactly where Hakkar will fit into the new meta, but high level players are debating the viability of the card in fatigue-based combo decks over on the Competitive Hearthstone subreddit.

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VIVE WIRELESS ADAPTER HAS A 'COMPATIBILITY ISSUE' WITH SOME RYZEN PCS

HTC is offering refunds to affected users while it continues to investigate the issue.

HTC confirmed there is a "compatibility issue" between its $299 wireless adapter accessory for its Vive VR headset and some Ryzen PCs, but it's not sure what exactly is causing the problem. Affected users can request a refund if they don't want to wait for HTC to figure things out.

"We have seen and are actively looking into multiple reports of Ryzen incompatibility with Vive Wireless Adapter. Our current data shows this is occurring with a subset of Ryzen-based PCs. Our investigation will take time as we are working with multiple component manufacturers to identify the root cause," HTC said.

HTC has been investigating the issue since at least the end of last week. There has been no update on the situation as of this writing. However, HTC said it will process "Ryzen-related returns" from its retail partners and direct orders, even if the return window has closed.

G.SKILL'S NEW 'ROYAL' MEMORY DEMANDS ALL OTHER RAM KITS TO BEND THE KNEE

RAM that's fit for a king or queen.

G.Skill has gone all fancy with its newest DDR4 memory kit. The company just launched its Trident Z Royal series, and what sets it apart from other RAM is a full-length crystalline light bar plopped on top of a polished heatspreader, with 8-zone RGB lighting, naturally.

It's unique enough that G.Skill filed for a patent on the design, which it says is currently pending. "The patent of the crystalline design on PC components has been applied for across major countries," G.Skill says.

The new memory kit is available with gold and silver heatspreaders, depending on your preference. Both versions sport the crystalline light bar, which is "meticulously crafted to display just the right amount of light refraction." G.Skill also includes a microfiber cloth with these kits so you can wipe away finger smudges and dust.

Beyond the bling, these are high performance kits available in a variety of speeds, up to DDR4-4600. There are over two dozen kits in all, including a couple of 128GB memory kits consisting of eight 16GB modules.

G.Skill didn't say what memory chips it's using for any of these kits, though we suspect Samsung B-die ICs might be found in some of the faster clocked ones, as G.Skill uses in some of its other Trident Z memory.

There's also no mention of price. We've asked G.Skill in the past to share pricing information and was told it doesn't do that because the market for memory often fluctuates. We'll find out soon enough though—G.Skill says the Trident Z Royal line will hit store shelves this month.

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Power To The Peephole!

I've seen the future, and it hurts. Behold: my flawless predictions for the next year of gaming!

JAMES COTTEE has seen the future at this time of year for as long as he's been alive. He found the Star Citizen prophecies confusing when he was 14, but they seem to make sense now.

January. To celebrate raising over US$200 Million for Star Citizen, Chris Roberts hosts a special two-hour long live-stream. At around the one-hour mark the profusely sweating 50-something developer's toupee comes loose, but none of his demoralised underlings bother to tell him.

February. Responding to Elon Musk's call out to developers to create games for his electric cars, Bethesda ports Fallout 76 to the Tesla 3 dashboard. Unfortunately, the beta build includes a bug that deletes not only the game but the entire OS, resulting in some truly spectacular freeway accidents.

March. Even though he's still retired, LawBreakers creator Cliffy B maintains a steady pace of social media output, averaging one major Twitter snafu per month.

Nassim Nicholas Taleb (author of 'The Black Swan' and 'Antifragile') publishes an 800-page scientific paper that mathematically proves that loot boxes are immoral.

April. The ongoing legal struggle for control of the Star Control IP takes a tragic turn. Stardock founder Brad Wardell and Toys For Bob founders Paul Reiche III and Fred Ford finally agree to a trial date, but Paul and Fred never make it to court; a freak accident in their office leaves them buried under nine tons of unsold Skylanders figurines.

May. Blizzard's move to axe bonuses for low-ranking employees pays big dividends, as staff abandon any semblance of perfectionism and start grinding out highly derivative games with glum abandon. A Murloc dating sim briefly becomes the darling of the Twitch streaming set, and grosses US$100 million in a month – more than WoW's subscription fee take for the entire year to date.

June. E3. Tacitly admitting they're running out of historical eras to set their games in, Ubisoft unveils an Assassin's Creed game set in 1970s Paris. The player is tasked with inventing parkour, and must use breakdancing moves to assassinate those who pose the greatest threat to civilisation: post-modern philosophers. Tech upgrades are dispensed by the greatest artistic genius of the era: Jean-Michel Jarre.

Pete Hines gives a live demonstration of Starfield. Things seem to be going well, until a space dragon clips into Pete's space castle and kills 15 plot-essential NPCs.

July. Noting the tremendous volumes of Undertale erotic fan fiction circulating for free on the internet, Toby Fox inks a deal with Mills and Boon to release this smut in paperback form. Mr. Fox also posts an ominous tweet: "Just wait until you see what we've got in store for Deltarune. You'll plotz!"

August. Australian-made space combat game Objects in Space finally leaves early access. The 1.0 release is met with some acclaim.

September. After literally decades of failed attempts to make a 'Vitality Sensor,' Nintendo simply gives up and starts selling vape pens with a big red 'M' on them. Nintendo president Shuntaro Furukawa makes his company's position clear during a special Nintendo Direct stream: "We're here for a good time, not a long time."

October. CitizenCon. Chris Roberts reveals a surprise special guest to help him host the convention: Elon Musk! Relaxing on stage in posh leather chairs, the pair share their thoughts on what life in space will be like, pausing intermittently to inhale from hookah pipes connected to an 'Aegis Dynamics SpaceBong'.

Roberts and Musk then unveil the largest in-game ship to date, a US$20,000 planet-killer: the RSI Triton. They announce that the Triton will only be available to those who buy a brand new Tesla car before the end of the quarter (3D-printed SpaceBongs sold separately).

> "Roberts and Musk then unveil the largest in-game ship to date..."

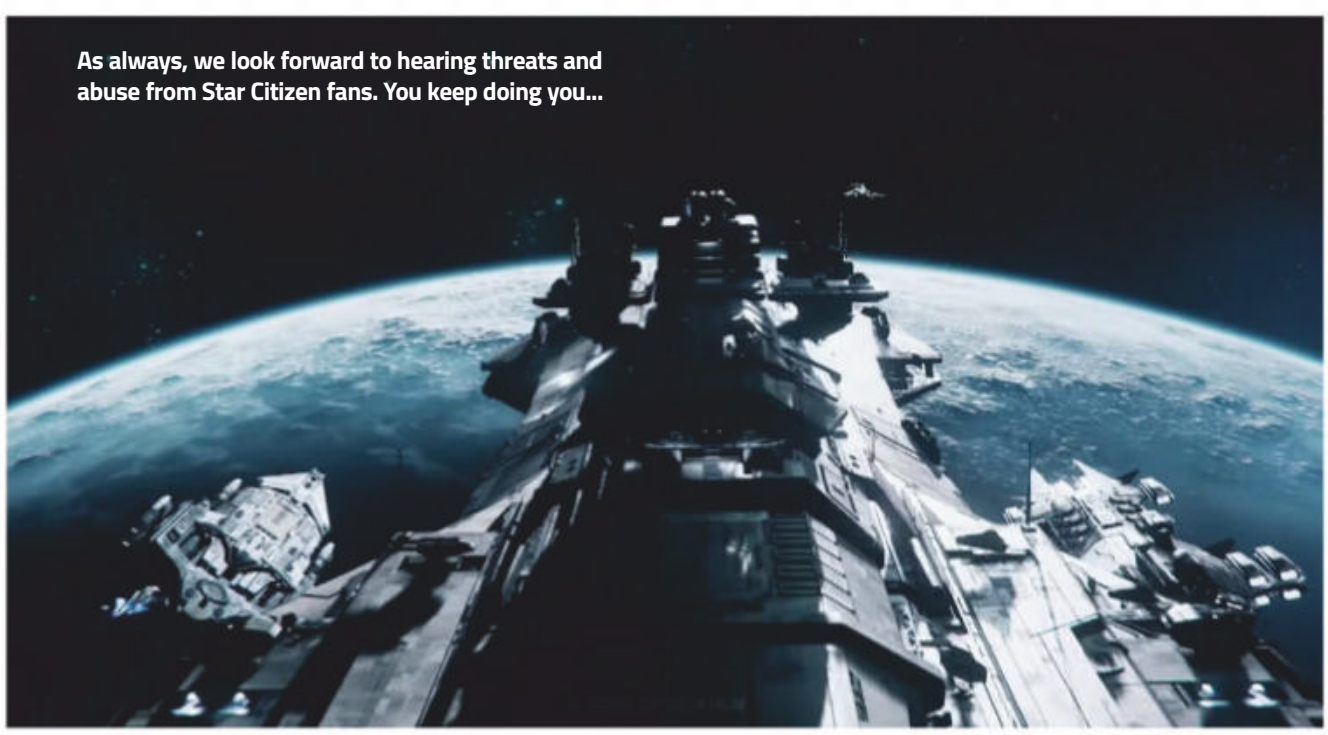
November. Blizzcon. The morale of long-suffering fans reaches new lows, as Blizzard executives reveal a string of re-skinned Chinese mobile phone games based on their beloved IPs. As the keynote presentation draws to a close senior designer Wyatt Cheng raises his hand to silence the crowd before saying: "Oh, and one more thing..."

The tension is indescribable. What could he be announcing? StarCraft 3? WarCraft 4? Did they finally finish that Orc point-and-click game? After an agonising pause, Cheng continues: "... We're proud to announce that we're bringing Lost Vikings skins to PUBG!"

This time there are no smart alec questions. No booing, no jeers. The Blizzard fans simply file quietly out of the convention centre, wondering if there might be something more to life than the endless pursuit of dopamine.

December. The details of the secret deal between the Victorian Govt. and Red China leak, revealing their plan to turn all of Southbank into a special economic zone for the creation of the most effective form of electronic social control ever devised: gatcha games!

An utterly pacified electorate greets this news with blithe indifference... PC



As always, we look forward to hearing threats and abuse from Star Citizen fans. You keep doing you...

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In Focus

THE HIDDEN DETAILS OF DESIGN

Into the Reach

Failbetter artist Toby Cook tells us how the studio creates a Victorian vision of outer space. **PHILIPPA WARR**

LIGHT AND DARK

1 Cook uses perspective to enhance depth: "Making foreground objects darker and richer, and background objects progressively lighter and more affected by atmospheric haze. This also helps the player identify what is on their level."

BUILDING MATERIAL

2 The game takes place in The High Wilderness – a fantastical spacelike location set in the Victorian era. The architecture thus combines Victorian influences with more contemporary space stations and rockets.

TECH BALANCE

3 Locomotives mix classic, fictional and current tech, eg, some can use lateral thrusters to manoeuvre "like contemporary space vehicles". Advanced factions seem more sci-fi and others are "ramshackle constructions of iron and wood".

LAYERING UP

4 "Though the background is composed of less than ten distinct layers, we use irregular overlapping patches of fog and beams of light to make the scene feel naturalistic," says Cook of Failbetter's use of layering.

SHINE A LIGHT

5 "The player's headlight has multiple functions. It helps the player determine what is collidable (since collidable terrain will block the light), assists in aiming weaponry, and also enhances atmosphere and the feeling of discovery."

NEGATIVE SPACE

6 "We find it's often more powerful to suggest rather than show explicitly," says Cook. "We try to fill the background space with gaps and hints of the world beyond and invite the player to fill the blanks with their own imagination."

Inside Dev

MAKING GAMES IS HARD

Making a scene

How developers create cinematics. By **XALAVIER NELSON JR**

You might assume that cutscenes are a simple piece of game development, without all that pesky interaction. This is not the case. In fact, examining the production process for cutscenes reveals a messy truth underlying most games – the inherent risk accompanying their nonlinear development.

"For us, the cutscenes were written months before the gameplay was finalised, so we were writing these cinematic beats of high tension and emotional fulfillment... when all the lead-up to those moments hadn't even been conceptualised yet," says Dead Rising 4 writer Shannon Campbell. "We had a map and we knew the rough destinations we wanted to hit, but the road we'd take to get there was a complete mystery."

This process is not atypical, as corroborated by Assassin's Creed III and Far Cry 4 creative director Alex Hutchison. "Usually you want to lock the script as late as possible," he says, "so it can respond to changes in design and missions effectively. But you need a draft script and a strong sense of the narrative early so you can make sure everything will fit together."

In large projects, due to the need to integrate elements from actor performances to the latest rendering tech, once a cutscene is built, changes range from expensive to impossible. "Every change costs more the later in the process you ask for it," says Hutchison. "Changing a whole story on day one costs nothing because you've invested nothing, but changing something in the last month is not only very expensive, it's probably impossible unless it's a straight cut." Campbell calls out performance capture as an example of flexibility restricting as time goes on. "Depending on how much money and production time you're dropping on cutscenes, once a scene is performed and captured, there's not much editing you can do to the actual physical performance."

While cutscenes are being written and conceived, it falls to artists like Alex Kanaris-Sotiriou to begin seeing whether they'll even work. "The concepting stage for cutscenes generally begins early in a project once the core gameplay and broad narrative/event arc have been established," Kanaris-Sotiriou says. "Most productions will want their cutscenes blocked out in some form for alpha (where the game is playable from start to finish using placeholder assets). The cutscenes at this point may be video animatics (moving storyboards) or implemented in a crude fashion with rough camera shots, sliding 'T-pose' characters and placeholder robo-dialogue." Previsualisation, or 'previs', fits neatly into this process, combining 2D and 3D assets to block out scenes before the resources are dedicated to fully realise them.

> "Every change costs more the later in the process you ask for it."

XALAVIER NELSON JR. I'm a full-time game writer and narrative designer, with credits inside and out of gaming.

As development accelerates, designers have to get crafty – particularly in cases where cutscenes are shown in-engine. James Henley, a former cinematic designer at BioWare, reveals some shortcuts necessary to get the sheer amount of dramatic content needed into Jade Empire, Dragon Age: Origins, and Mass Effect: "Working with pre-existing animations, we often altered blend weights on animations or used small parts of a longer animation that may imply an entirely different action when viewed out of context. … Non-standard movement was often implied by cobbling starts and ends of other animations together and carefully managing camera motion and cuts to imply action."

SALARIAN CINEMA

Once a cutscene is produced, it falls to people like Michael Elliot – a former content QA tester on Mass Effect 3 – to ensure everything runs smoothly. Sometimes, this requires viewing the same scene multiple times. One day, this culminated in an attempt to track an issue with the final confession of Mordin Solus. "There is a moment, near the end of the scene," Elliot recounts, "where Mordin cuts off Shepard mid-argument and yells, 'I made a mistake!" ThenI know a there's a beat where Mordin calms himself and says again, "I made a mistake.' ... During one of my playthroughs when I was testing the scene my PC hitched and Mordin's beat between the two lines was missing. Without it that pivotal moment felt wrong, it felt rushed, you don't get to see Mordin came to terms with what he is saying.

"Seeing how [those] few seconds of silence made all the difference in that scene made me realise how much attention went into creating the game, and how much I enjoyed what I was doing."

That's what all of this work from all of these people ultimately hopes to achieve. A two-second pause that, for the player, will mean everything. PC

Cutscenes can be produced months before the gameplay and narrative experiences connecting them together are even conceived, as was the case for Dead Rising 4.

FAR LEFT: Alex Kanaris-Sotiriou details how combining 2D and 3D concept work to block out cutscenes ahead of time allows devs to prototype scenarios quickly and cheaply.

LEFT: Jade Empire's staged conversations were created entirely within the engine's scripting language.

COMMUNITY FAVOURITES

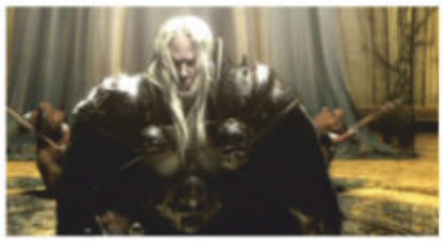
I ASKED DEVELOPERS WHAT THEIR FAVOURITE CUTSCENES WERE, AND WHY

ALEX KANARIS-SOTIRIOU
POLYGON TREEHOUSE

Kanaris-Sotiriou appreciates how the Governor's Mansion brawl in the *Secret of Monkey Island* uses sound effects and Batman-like captions to capture the player's imagination.

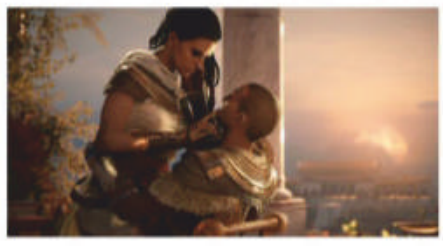
JAKE RODKIN
VALVE

Rodkin recalls how the opening of *Full Throttle* straddled the technology gap facing adventure games with confidence, mixing pixel characters with 3D motorcycles and cars.



SEAN OXSPRING
DAMBUSTER STUDIOS

Oxspring reflects on the shocking fall of Prince Arthas in *Warcraft III*, depicted in the purging of Stratholme."I remember being like, 'I understand why but jeez there's got to be a better way?'"



CHELLA RAMANAN
3-FOLD GAMES

Ramanan spotlighted a scene of Aya jumping into Bayek's arms in *Assassin's Creed Origins*, noting the rarity of people of colour being depicted as sexy, strong, intelligent and in love.

Knowing an Industry

Because games are made by people.

Indie designers tell me about their games. Some give an elevator pitch, through my contact form for getting in touch for indie coverage. Others tweet a trailer. At PAX Australia, they demo a favourite thing, or share a story about their husband being the goofy PR guy. They try to sell me on the responsiveness of their platformer, because this aspect is critical to their vision, or they're targeting middle-aged women with serious, literary content, because why isn't anyone doing that? I feel like I 'know' indie games, through years of candid impressions. People love the things they're making. They're passionate and driven.

Freeplay's Parallels sold out this year, to a live audience of 360 people. As such, it should have felt less intimate than these years of one-on-one conversations, but the event was extraordinarily warm and confidential. I first met Mike Blackney, for example, when I wrote up Dead Static Drive (way too early) in a PAX feature. At Parallels, he shared the reasons why he's making a game about an existential road trip, linking back to the relationship with his father over many years. I'm honestly not sure why I never asked after the why of Mike's game. I wish I had.

So, Parallels is insight into the personal whys of game development? Sometimes. Dakoda Barker opened the night by demonstrating why his game, Rise, is so difficult to play. To open a door, you must complete a complex string of simultaneous controller commands. He discussed an influence for the why of this; repetitively mashing X in Metal Gear Solid 4 during a time when he was experiencing chronic pain. So, instead of beating a boss, you're challenging the limits of physical ability. With recent spotlights on accessibility in gaming, this is a thought-provoking approach.

Next, Wren Brier and Tim Dawson talked about their experiences at Stugan, a not-for-profit program allowing game developers to spend two months in a cabin in Sweden, making games. Their project, Unpacking, delivers what it promises; the milieu of life, carefully arranged into a new home. Instead of 'why', the designers chose to primarily share aspects of their process, like how to make objects recognisable so people would know where to put them.

MEGHANN O'NEILL finally found a practical application for her daily 3km jogs; bolting across Melbourne to get to Parallels when her train got in late. She was only a little puffed out.

With similar attention to detail, artist, LeeYing Foo, gave an exceptional (and hilarious) presentation about how she overhauled the art for Simulacra's user interface. As a phone hacking game that you play on your phone, icons initially appearing too real confused players to the point where they thought in-game messages were from real people or that they had to reset their phone to beat the game. My sides hurt from laughing. I'd never imagined that a simple revision, like cutting the corner off a square icon, could make such a difference.

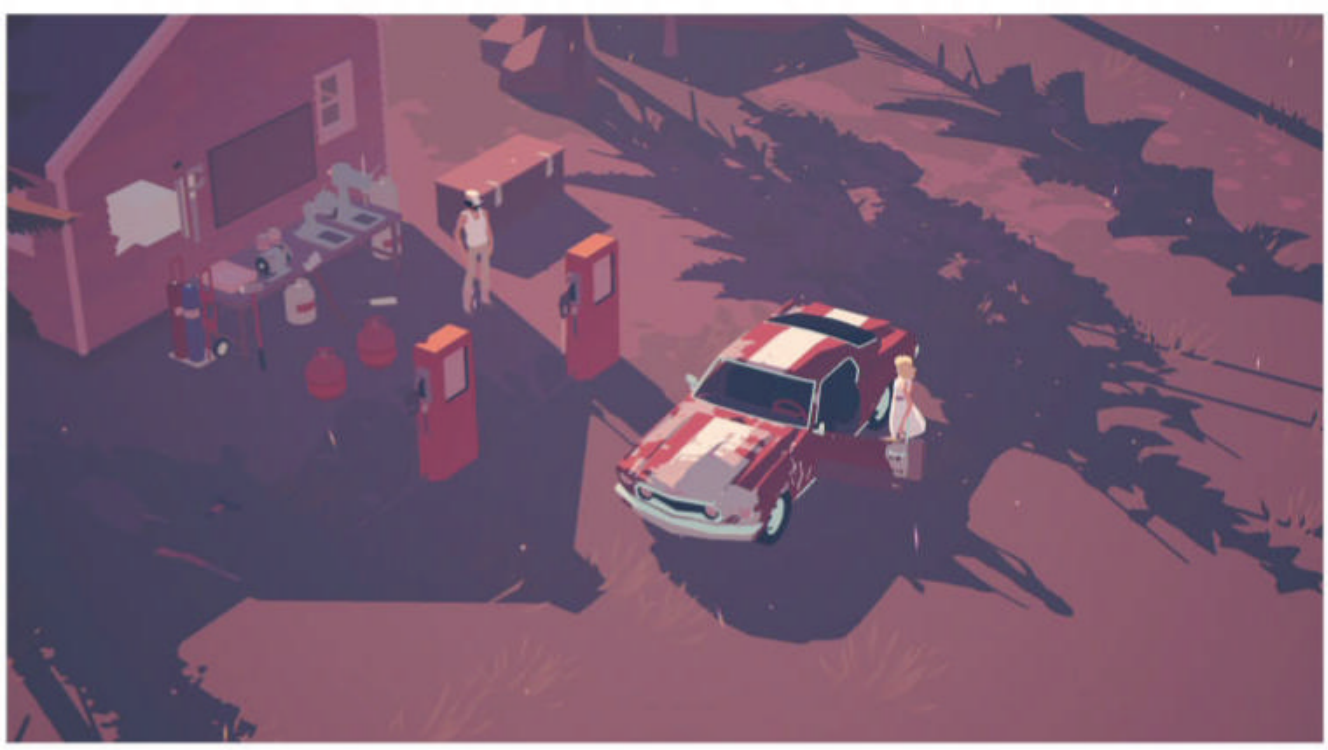
LeeYing Foo mentioned that, despite her pivotal role on Simulacra, she didn't always refer to herself as an artist and Parallels' most common theme was that designers reflected on the intersection of their identity and the creation process. Leura Smith shared an anecdote about Pigeon Game; that her 'popular' cousins liked it and she realised she'd created something that was 'OK to like'. Influenced by her positive experiences with Nintendogs, Pigeon Game is every small child's power fantasy. You don't even have to chase the pigeon, you can just catch it and hold it. It's amazing.

While writing up this event, I realised I didn't know what the name 'Parallels' meant, so I asked Freeplay Director, Chad Toprak, who said, "The original idea behind the name was to acknowledge that there's a world of indie games that exists parallel to the big world of AAA. Now, Parallels exists to highlight the intimate, experimental, and culturally significant works that sit parallel to the commercially focused, big and loud indie games."

Of course, Ruqiyah Patel made an excellent point during her presentation, while discussing interactive fiction title, If Not Us. If a designer likes something, they can simply make it. They don't have to appeal to any particular audience, even at conventions, if their primary focus isn't commercial. If Not Us is released for 'name your own price' on Itch.io, so I'll let you discover this innovative, personal story for yourself.

Although I enjoyed seeing all of the indie games at PAX, Freeplay's Parallels was an absolute a highlight and, luckily, held at the same time. There were more games I haven't touched on; Novena, Touch Melbourne, Desert Child, and Vignettes, because I'm out of words on this page. When I'm not writing for PC Powerplay, I'm happy teaching, composing and being a mum, but it's been difficult not to feel disappointed about the fact that 5 issues of PC Powerplay in 2018, compared to 12 in 2017, means I've connected you to significantly fewer indie games. Thanks for reading about them, regardless. PC

"With recent spotlights on accessibility in gaming, this is a thought-provoking approach."



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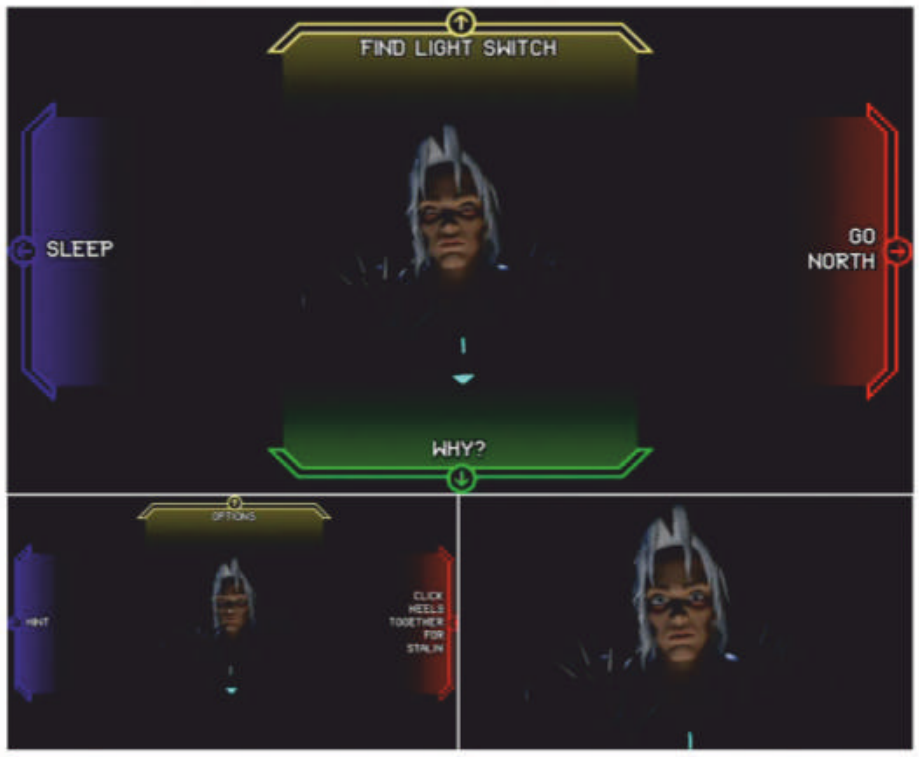
PAX moreheadline

If you've been reading PC Powerplay for a while, you'll know **MEGHANN O'NEILL** sees every indie game at PAX Australia. It's a great way to get an overview of the local industry. This year her count included more than 130 Australian PC games. Including student projects and everyone whipping out their new prototype or friend's game, it's surprisingly hard to get an accurate count. Our aim, this month, is to introduce you to a range of new experiences you might enjoy. Many are currently released and free so, if you couldn't make PAX this year, this is your invitation to play along at home.



THE DARK ROOM

DEVELOPER STIRFIRE STUDIOS • **RELEASE** EARLY ACCESS • **PRICE** US$14
www.thejohnrobertson.com/thedarkroom/

The Dark Room is the stern scolding we all deserve. For older gamers, like me, who have grown soft, feasting on morsels of modern design. For new gamers, who have never known endlessly, meaninglessly, unfairly starting over. For the gamer sitting next to me, wincing as I make choices. For the man, in the other seat next to me, who was merely in Melbourne to see his favourite horse win a race. "I have a friend who might play DOTA, I think. Do you know that one?" I mean, yes, but not really. As he watches me play, he seems to oscillate between abject confusion and physical pain.

And so, I find myself traveling home from another PAX Australia, dying during character creation, red-faced with humiliation and pique. I'm later forced to choose 'brightness'; my IQ or my screen, and I know one will kill me. I feel like I probably know which one, but I've come so far, like when King's Quest V wouldn't save to C: and I had to complete it, eventually, carefully, in one session. I start solving The Dark Room using memory and process of elimination. I can see structure; dead ends, deaths and an elusive 'correct path' behind my eyelids if I close my eyes real tight.

Somehow, I unwillingly unlock 'hard mode' and am then playing, from the start, all over again, with no text on screen, recalling the prior positions of safe responses as if this were a mad game of Simon Swipe. My memory fails, I select the blue option and am inexplicably told, "Oh, go fluff yourself, Darren, it's not 2007." Well you know what? Fluff this game. It's trying so hard to be a hardcore text adventure and teach everyone a lesson, when it's actually one of the most clever, hilarious and innovative takes on the genre I've ever seen. I suspect the designers know this and it's killing them.

MY MAGPIE, SOUND OF MY TOWN, AND BEAM TEAM

DEVELOPER NO MOSS STUDIOS • **RELEASE** RELEASED • **PRICE** 32 GAMES FOR $5 AND OTHER PAYMENT OPTIONS
www.patreon.com/NoMossStudios

As you may know, I love tiny, beautifully-made games; games you can devour during your coffee break. I must admit, however, when No Moss Studios told me they were showing 32, one made each month, I had to suppress an "Oh no." Surely, they couldn't be any good. Punters were certainly enjoying them at PAX, however, and now, sitting down with a little collection, suggested by the designers, I'm on my third coffee already. With music, pleasant art, little narratives and easy to understand mechanics, they are a triumph of scope - an absolute treat.My Magpie is about rescuing a magpie with a busted leg, feeding him scraps and commenting on the objects he collects for you, from around your room. With endless, lovely piano music and little embellishments, like the bird's eyes following your cursor around the screen, I almost missed the ending. So, they're interactive stories? Some are, others aren't. Sound of My Town is a minimalist builder that works like a Tenori-On, with every placeable thing having a pitch, timbre and rhythmic location. The only question is, are you building a town or a piece of music? Can you do both?

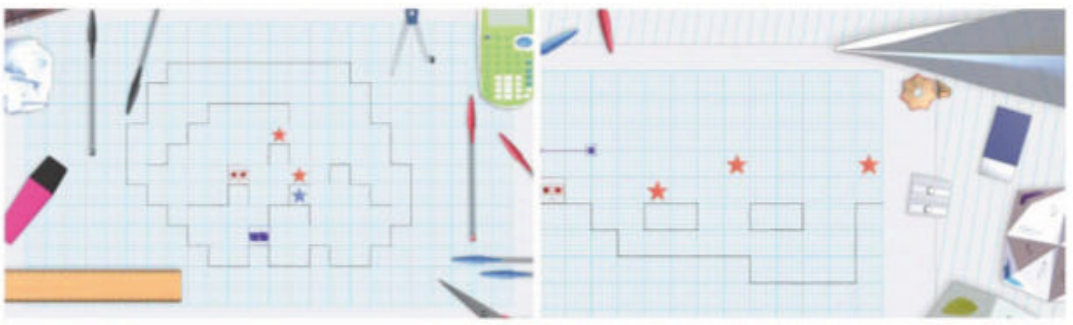
Possibly the hardest game to play while you actually drink coffee is Beam Team, in which you destroy planets, despite their best efforts to defend themselves. Just because these games are small, doesn't mean they don't sometimes require great skill. Developer, Daum Park, says, "We are curious and passionate about short form games that can have huge emotional impacts on players in a small amount of time." Works for me and my coffee. Access to all 32 of these delights, and future games, is purchased for the bargain price of $5 through Patreon.

GHOUL BRITANNIA: LAND OF HOPE AND GOREY

DEVELOPER BINARY SPACE • **RELEASE** EARLY PREVIEW • **PRICE** TBA
www.binaryspacegames.com/land-of-hope-and-gorey/

What's up with adventure games and puns? Ghoul Britannia: Land of Hope and Gorey? Seriously? Lucky I'm a sucker for this genre. I'd play literally anything new. Even luckier, I love the setting. I wake up in someone else's house. The owner's dirty underwear is still in the washing basket. Ew. I'm trying to fix a generator in Section 5, while inexplicable 'ELUs' fidget, just beyond a hastily erected, electric fence. There are militia everywhere, I've already stripped all the cars for parts and I really need a spark plug before nightfall. There's an immense amount of pressure and discomfort to this.

The player often needs to know information before they can notice solutions. I do like this in adventure games because it tends to encourage multiple engagements with all aspects of the surrounding environment. Ghoul Britannia is a ways from release, but it's looking good. The other standout point and click adventure from PAX was Henry Mosse and the Wormhole Conspiracy, which has a demo you can play now. Find it at www.mosseadventure.com. When it comes to adventures, more stuff is good stuff, as far as I'm concerned. Keep it coming.



SCHOOL'S OUT & PEN PALS

DEVELOPER STUDENTS AT SWINBURNE UNI
DEVELOPER STUDENTS AT AIE MELBOURNE

Lots of indie developers tap into nostalgia. Games like Thimbleweed Park are a gift, for an old gal like me. At PAX, this year, there was a second wave of nostalgia, too, with Doom-like games and 90s aesthetics. Oddly enough, I didn't play a lot of those in high school. Two student teams hooked me, however, with 'school-styled' pinball and paper games. (3D Pinball: Space Cadet was basically my HSC.) School's Out, by a Swinburne duo, is pinball with music notes that chime in key, a periodic table and all the little accoutrements to accompany a more conscientious approach to schooling. Love it.

Pen Pals was the other game, which I played with my husband after PAX, as if we were back to being goofy teenagers, touching elbows across our desk, sketching and solving puzzles together. I was blue, he was red, we were either lines or boxes, collecting stars, sometimes competitively, sometimes working together. We moved left and right but would fall down a square if there was nowhere to move to. The levels in the demo show some interesting puzzle design but, really, I was just thinking, "This class is pretty boring. I wonder if this cute guy would go out with me."

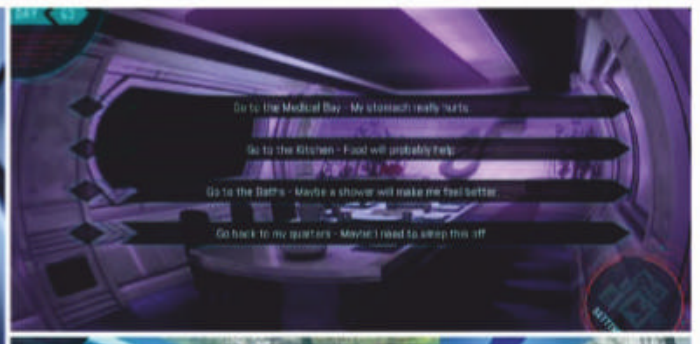
THE STILLNESS OF THE WIND

DEVELOPER MEMORY OF GOD/LAMBIO STUDIOS • **RELEASE** "AVAILABLE WHEN THE GOATS ARE READY." • **PRICE** TBA
fellowtraveller.games/games/the-stillness-of-the-wind/

Everyone wants me to play their game at PAX, and I would, but I wouldn't get to every game, if I stopped for long. Some, I do play. Others, I yearn for, until I get home and someone emails me a build. I was desperate to play The Stillness of Wind after seeing it on the show floor. It's incredible, impossible to rush. Talma is old, you see. There used to be sixteen pairs of shoes strewn across this tiny, desert abode, but now, only hers. Goats and chickens remain. And an old friend who brings intimately written mail. If the young relatives are a little short, the older ones are eloquent, loving.

I fed the goats and walked out into the desert. Natural features and memories that I found interesting were old news to Talma. She eventually shook her head and refused to continue, knowing her limits. I noted her lengthening shadow and turned back reluctantly. This is a very slow game, but it promises to be absolutely full of life. What's happened to the world, beyond her little haven? I need to know, but I've decided not to play anymore, until release. Apparently, it will be available 'when the goats are ready'. I can respect that, yet I hope it will be soon.

As my life faded, my words of warning died on my lips. I couldn't move a muscle, much less cry out to her. My vision dulled, and a wave darkness washed over me



VOYAGER PROJECT

DEVELOPER DISASTER FISH • **RELEASE** PLAY IT AT BAR SK, MELBOURNE • **PRICE** TBA
https://voyagergame.net/

I'll be honest with you, I love a good elevator pitch at PAX. Given the money and time developers invest into showing their games, you'd be surprised how few have a concise, useful way to describe them to press. Creative director/producer, Felix Strangio, simply told me that Voyager Project was about, "being alone, together, in space," and that wasn't a bad initial hook, especially because this asymmetrical co-operative experience combines exploration with hacking. One player is 'on the ground', the other is 'in control' from afar, in a similar way to in Keep Talking and Nobody Explodes.

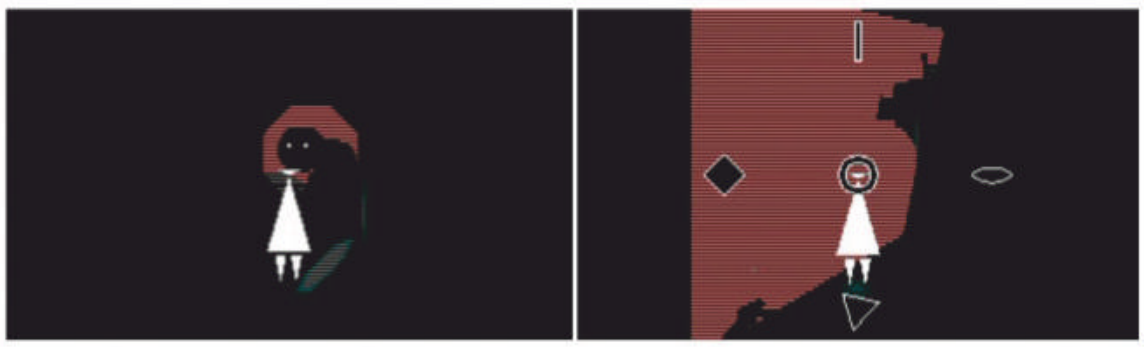
There's also the argument that a great game will sell itself but, unless you're Stardew Valley, great games without great marketing do tend to remain invisible. Voyager Project's team had a repertoire of little hooks, however. On narrative, Strangio said, "A fragmented story challenges players to assemble a shared interpretation of their rescue mission to Pluto." The website adds information about a "cold-war era science-fantasy facility", a "distress beacon" and arriving "ten years too late." This was one of the few games I was unable to play at home but, please, tell me more...

QUANTUM SUICIDE

DEVELOPER COTTONCANDYCYANIDE • **RELEASE** DEMO AVAILABLE • **PRICE** TBA
https://cottoncandycyanide.itch.io/quantum-suicide

Speaking of elevator pitches, Quantum Suicide's communicates very directly with an audience for visual novels; "Friendship. Courtship. Hardship. Spaceship." The demo, available at https://cottoncandycyanide.itch.io/quantum-suicide, also sets an incredible pace. I'm in space, people are into me, 'instructional videos' for procreation are something I'm aware of but haven't yet seen, and a mysterious AI is forcing us all to play The Deletion Game. What if they murder one of three male, three female romanceable options before I've romanced them? Oh no.

Following a successful Kickstarter, and although early in development, this promises polish. The art is evocative, particularly locations inside the spaceship, when you consider the dissonance between a comfortable living environment and the dark events that are unfolding. The story, with decent voice acting, is mostly delivered through conversation with sexy characters. I searched 'quantum suicide', as a concept, and got confused by Schrodinger's Cat. I suspect this will be, recognisably, a visual novel, while also surprising and delighting fans of the genre with a few key twists.

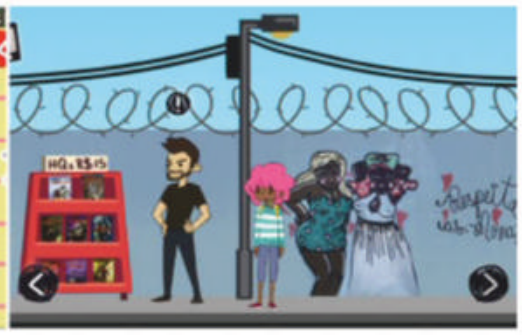


NTH DIMENSIONAL HIKING

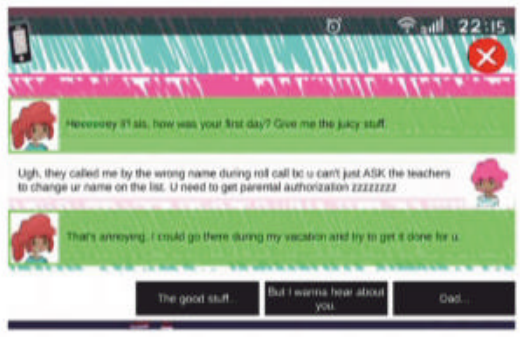
DEVELOPER ZACHARIAH CHANDLER • **RELEASE** DEMO AVAILABLE • **PRICE]** TBA
https://zachariah-chandler.itch.io/

Towards the end of my PAX experience, some other kind of Skybus dropped me onto a polygon. It could have been sunset, but it's hard to tell, given the strongly contrasting colours dithered together in Nth Dimension[al] Hiking. More polygons floated nearby, alongside a complex, shadowy structure. I had a radial menu with oval, stick, triangle and square. Surprisingly, some experimentation allowed me to get around. I felt the place was 'in between' somehow, yet I was in no rush to progress, even if was wary of becoming too like the huddled figure inside the dark tunnel.

If you'd like a chance to interpret this obscure, yet compelling, game for yourself, a demo is available at https://zachariah-chandler.itch.io/ndh There's also a folder with the download. In the readme, designer, Zachariah Chandler promises that the game, "won't hold your hand and won't hurt you." Falling off the polygons results in your character quickly resetting, for example, until you understand mechanics. There's also a tiny hint book, organised into folders, so you can get a little nudge on your way. As a university project, I wanted to know if this got good marks. Apparently, it did.



Florescer is heavy on detail and sense of place.


Ugh, they called me by the wrong name during roll call bc u can't just ASK the teachers to change ur name on the list. U need to get parental authorization zzzzzzzz
That's annoying. I could go there during my vacation and try to get it done for u.
The good stuff...
But I wanna hear about you.
Dad...

The NEXT Generation

Six exceptional indie games got a very special spotlight this year...

The NEXT Exhibition was a new addition to PAX Australia in 2018. Six games of exceptional merit, but of a kind that the general public tends to overlook, were featured prominently in the main hallway. Chosen from around 100 expressions of interest, this collection was getting due attention as I wandered past. I even had the opportunity to speak with Bradley Hennessey, designer of An Aspie Life, which frames conditions like stress, courage and overwhelm as game mechanics. An Aspie Life is 'name your own price' and released. I've now told you about it, so there's no excuse to miss it.

Also unmissable and 'name your own price' is Florescer, which follows a few, pivotal days of a girl's life. It's light on interactivity, but every detail of the setting is carefully placed; bathrooms, bullies, breakfast. There's an occasional mini-game, like shooting ducks at the fair. Bia is a confident, typical teenager, but several other characters react uncomfortably to the fact she's transgender. Her family doesn't know she's living as a girl. I played to the end because I was rooting for her. I trusted that everything would work out okay, even if things got rough. They did get rough. But Bia is strong.

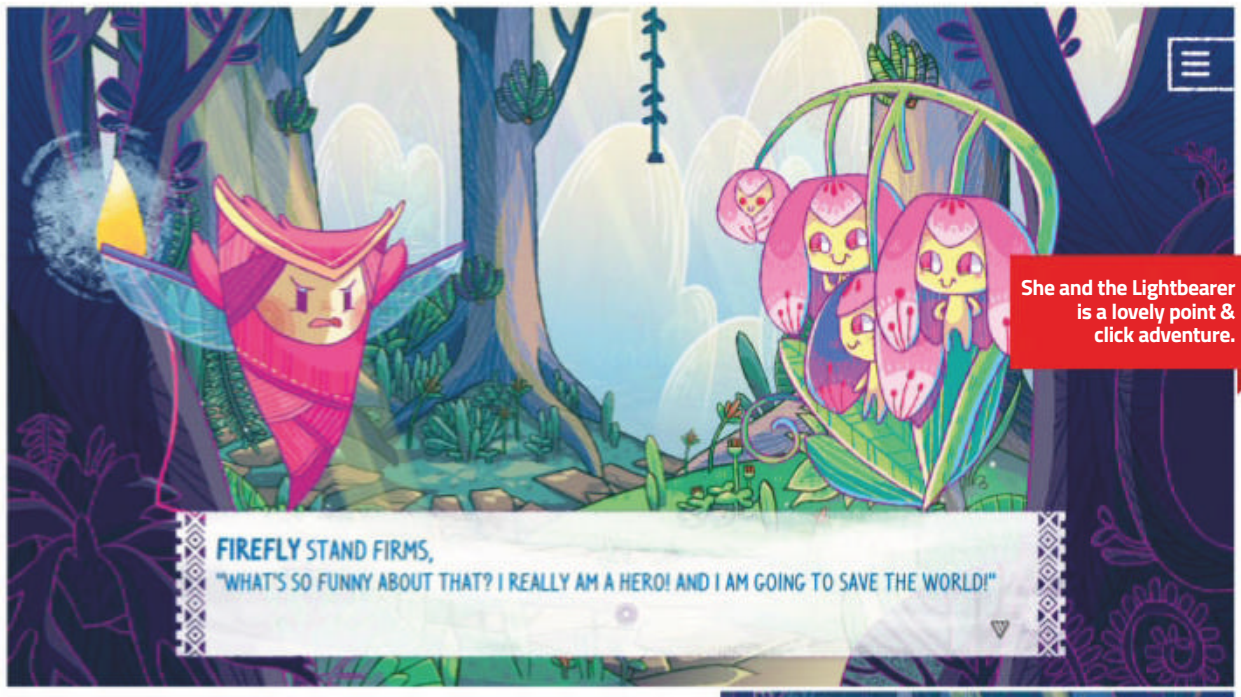
Anamorphine also depicts intense emotions. It unfolds as you explore, but chaotically. You get lost in memories and pictures. There's musical notation on a blackboard, fancy instruments, a completed game of chess, a performance, flowers, cello students... The environment is constantly evolving. I didn't read the description on the Steam page before I played and this was a good decision. Disorientation is essential to eventually understanding the game's divergent paths. This is an artistic experience, for people interested in environmental storytelling and progression.

Before I Forget also relies on interacting with your surrounds and I particularly liked having to find my glasses before I could see clearly. A lot of games cast the protagonist with amnesia, probably because it's a convenient way to incrementally discover aspects of a character's story alongside them. In this case, I was trying to recall vivid memories of a significant other but kept walking into the same dark closet instead of what I thought could be the bathroom. My character clearly had a form of dementia. I was motivated to discover more about myself, but it's difficult; appropriately so.

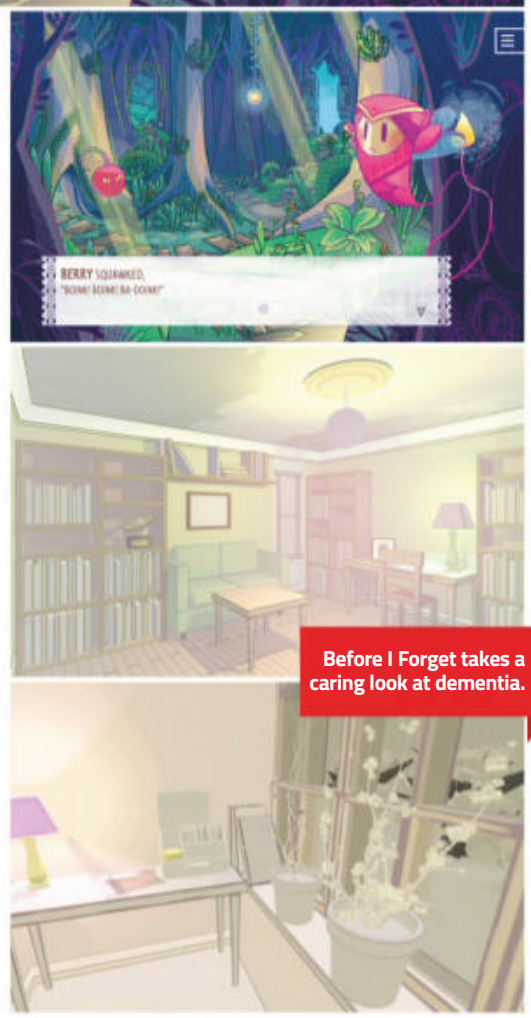
Of course, discovery can be many things and I was very pleased to play the gorgeous She and the Light Bearer as part of NEXT, too. It's a point and click adventure based on the Indonesian folktale of Ibu Pertiwi. As well as being very open to stories that share culture, I found myself wanting to progress just to see whatever colourful artwork might come next. The puzzles in the demo aren't tricky, but they felt fresh and fun to figure out. The protagonist is very charming. This is currently pre-release, although it may be released before the end of 2018. It would be a shame to miss.

Boyfriend Dungeon is also currently unreleased and the only game I wasn't able to play at home. Several people told me they enjoyed how responsive combat feels, however. This is gratifying, given the main hook actually seems to be 'date your weapons.'

This feature has aimed to bring indies to your attention, including NEXT's entire, amazing collection. We hope you'll find and enjoy a few. PC



She and the Lightbearer is a lovely point & click adventure.



Before I Forget takes a caring look at dementia.

> An Aspie Life is 'name your own price' and released. I've now told you about it, so there's no excuse to miss it.

10 to Watch

1

The Textorcist

DEVELOPER: MORBIDWARE
PUBLISHER: HEADUP
DUE: Q1 2019
www.headupgames.com

So bullet hell games are a classic part of gaming history, and - when you think about it - so are typing games, though one is often more fun than the other. But what happens when you combine the two? Well, apart from being hell of a unique elevator pitch, that's what The Textorcist aims to find.

In it you play exorcist-at-large Ray Bibbia, as he dodges storm after storm of bullets, while also needing to type out demon-banishing passages from your holy book in order to fight evil. It's all a little tongue in cheek, and as the game goes on difficulty ramps up - you'll have to switch from typing in English to latin, so… I guess you could learn latin, too?

2

Adolf Hitler Humiliation Simulator

DEVELOPER: REGIME X • **PUBLISHER:** REGIME X • **DUE:** OUT NOW
On Steam

The office just spent ten minutes as I was writing this page in utter bafflement over this game, and it only seems fair that we let you share the experience, dear reader. From the same team that brought you Piano Simulator and Gym Simulator, comes a game where you not only get to humiliate history's greatest monster, but you do so by… Well, you get to piss on Hitler.

That's it.

Well, you can shoot him, but mostly it seems like it's all about urinating on the Chancellor of the Third Reich.

Which, I guess, allows you to answer a burning historical question - would you piss on Hitler if he was on fire?

3

Astroneer

DEVELOPER: SYSTEM ERA SOFTWORKS • **PUBLISHER:** SYSTEM ERA SOFTWORKS • **DUE:** FEBRUARY 2019
https://astroneer.space/

Astroneer's been in Early Access since 2016, but it's finally getting a full release next year, and it's looking like a compelling take on space exploration and open world gaming. It sounds more than a little like No Man's Sky, but without that game's ambitious scope. In Astroneer you can play with up to three other people, build and share bases, and explore a mysterious solar system.

"Astroneer reflects on the legacy of human space exploration and imagines the future," says System Era Softworks communications director Joe Tirado. "We want to inspire a sense of wonder and reverence for the beautiful universe we live in, while promoting ideals such as creativity, tackling adversity and outside-the-box thinking."

4

Gris

DEVELOPER: NOMADA STUDIO • **PUBLISHER:** DEVOLVER DIGITAL • **DUE:** DECEMBER 2018
https://nomada.studio/

Screenshots can only show so much of any game, but with Gris, they're downright inadequate. Swirling animations and beautiful backdrops are accompanied by stirring score follow the story of Gris, a young girl lost in grief. The game features simple puzzles and optional skill-based tests, but it's more about the journey than the challenge.

As the game progresses, Gris learns more about herself and the world around her, finding new ways to explore and rise above her loss and holy heck this game looks incredible. Track down a trailer NOW.

5

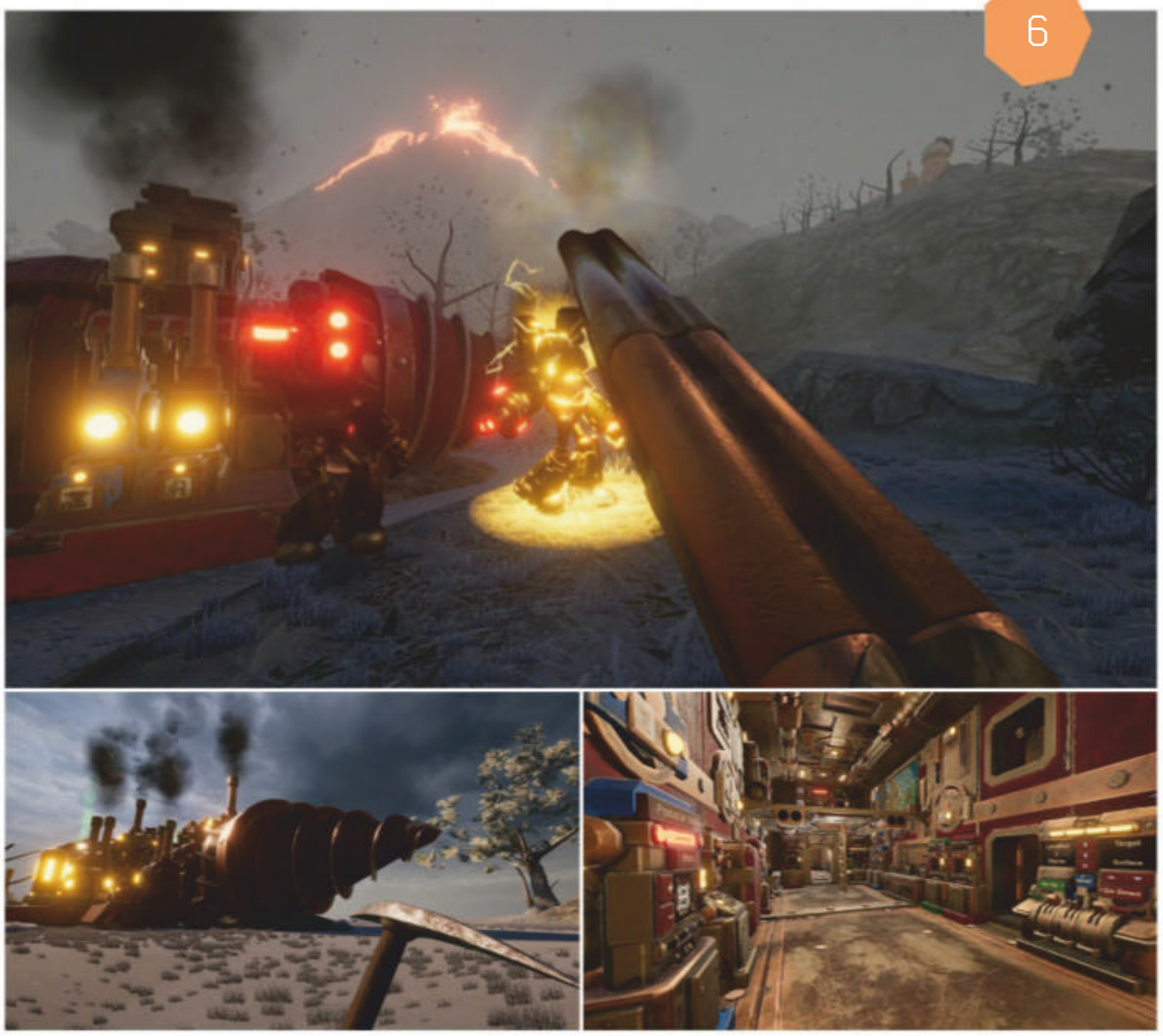
Iris Fall

DEVELOPER: NEXT STUDIO
PUBLISHER: NEXT STUDIO
DUE: DECEMBER 2018
www.thenextstudio.net/iris

Looking and even sounding like some beautifully dire mash-up between the early works of David Lynch and Tim Burton, Iris Fall is a game about light and shadow, and the two mysterious worlds they occupy. Iris is a young girl that discovers she can traverse these two realms, and as she explores a run-down theatre, she begins to discover a series of strange coincidences…

The game combines 2D and 3D art in a subtle black and white style, with adventure and puzzle game elements.

It also looks more than a little spooky, so I hope you're not afraid of the dark...



6

Volcanoids

DEVELOPER: VOLCANOID
PUBLISHER: VOLCANOID
DUE: EARLY ACCESS JAN 2019
www.volcanoids.com

Imagine Subnautica, but on land, and in Steampunk setting… Okay, that's a pretty poor analogy, but you get the idea. Volcanoids challenges you to build and survive in a world overrun by robot enemies and prone to sudden and violent volcanic eruptions. You'll live and by your massive drillship, a combination base that can you can expand and upgrade, and slow moving land vehicle that can, well, drill.

"The drillship is a cross between an armored vehicle and a fully automated factory," said Lead Designer Tomas Rampas. "Having a mobile base comes with many advantages and saves players a lot of time. Once multiplayer is added, griefing will become a thing of the past. The ability to go and stay underground makes it really easy to protect the player's drillship while he's offline in a way that doesn't break the gameplay experience for others."

7

Aeon of Sands

DEVELOPER: TWO BITS KID • **PUBLISHER:** TWO BITS KID • **DUE:** DECEMBER 2018
https://aeonofsands.com

Sick and tired of stoic heroes heading out looking for adventure and overcoming all obstacles with gritty aplomb? Then you'll love Aeon of Sands' main character, a sleep clerk who's been thrust into a deadly desert world of post apocalyptic raiders and dangerous weather events. The game is charmingly retro take on the classic dungeon crawlers of yore, with a tonne of branching paths and rich in dialogue choices that can drastically change the world around you.

The many options in the game also make it remarkably replayable, as your choices can lock out whole portions of the game world, so if value is one of the things you rate a game by, then Aeon of Sands will be right up there.

Iron Danger

8

DEVELOPER: ACTION SQUAD STUDIOS • **PUBLISHER**: ACTION SQUAD STUDIOS • **DUE:** 2019
www.irondanger.com

There's a lot to like in Action Squad's pitch for its upcoming tactical RPG, Iron Danger. For one, the game's name sounds like it could be a Jaeger in Pacific Rim, so that's something, but it's also a turn-based action game with a gripping story, about a young girl who receives a powerful gift alongside a constant companion, and… yeah, it just sounds and looks like a really solid RPG. It even has some nifty time manipulation mechanics.

But I think what I like most about it is the fact that the developers have promised as little grinding as possible. Now that's cool.

9

Pax Nova

DEVELOPER: GREY WOLF INTERACTIVE
PUBLISHER: ICEBERG INTERACTIVE
DUE: IN EARLY ACCESS
http://www.greywolf-entertainment.com

There's a rather funny, and yet apt quote in the YouTube comments for Pax Nova's first trailer, calling the game "Endless Civlization: Beyond Stellaris". And we can really see that - the game is a classic looking space-based 4X game, but it does look very slick, with some great character design.

Greywolf's Mike Domingues says: "After building Dawn of Andromeda around a very streamlined approach and learning a lot from that experience, we decided to work on a completely new 4X game with brand new ideas and a vastly different approach. Pax Nova is an epic space opera that seamlessly blends together planetary strategy with a space layer, which we believe sets it apart and hopefully one players will enjoy."

We're hopeful.

10

Observation

DEVELOPER: NO CODE • **PUBLISHER:** DEVOLVER DIGITAL • **DUE:** 2019
https://observationgame.com

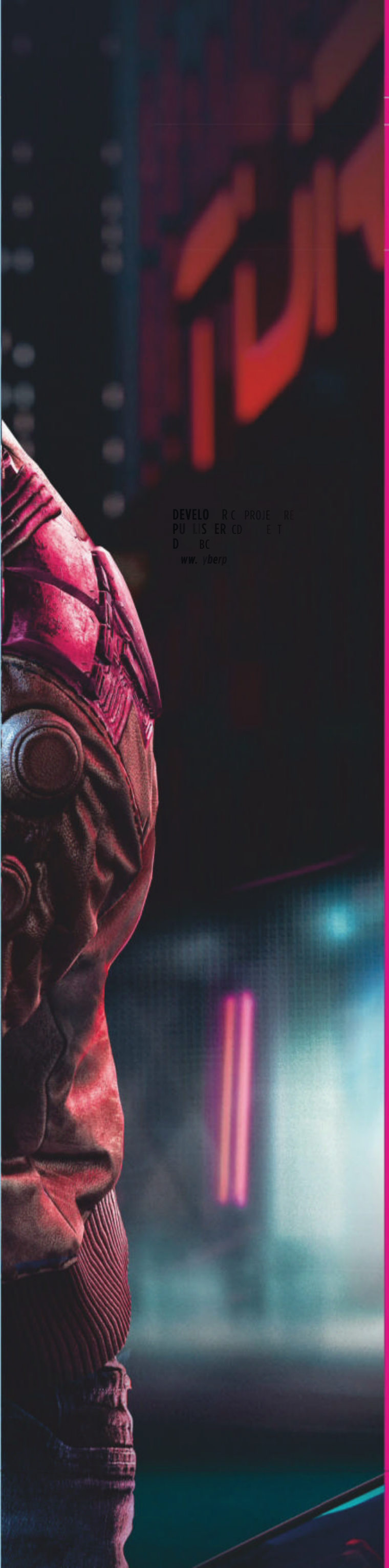
Devolver Digital is known for bring some unique works to market as a publisher, and No Code's Observation is looking to be high up on that list.

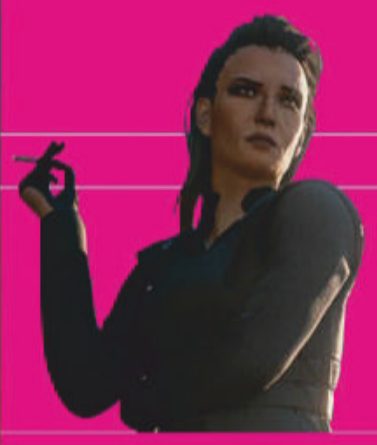
In it, you play the AI in control of an abandoned space station, and you're tasked with helping an investigator find out what happened to the station's vanished crew. It combines some of the claustrophobia and suspense of Alien: Isolation with a design and production style firmly grounded in modern space exploration.

"Let's get real, we're five to ten years away from the machines taking over," said Devolver Digital CFO Fork Parker. "Observation is just going to give a taste of what it will be like to converge their minds with that of a CPU before it all happens suddenly for real."

Funny lads, those Devolver guys.

Welcome to
PARADISE





Cyberpunk 2077

An in-depth look at CD Projekt RED's ambitious new RPG.

You've likely seen the Cyberpunk 2077 demo by now. After keeping it behind closed doors at E3, the Polish developer suddenly released the entire thing on YouTube. It was a power move by a studio aware of how anticipated this follow-up to The Witcher 3 is, and the video is now sitting at over ten million views: figures usually reserved for Rockstar games.

When I sit down in a cavernous boardroom in the studio's Warsaw headquarters to see the game, I'm aware it's the same demo. But the difference is, this one is just for me. The developer manning the controller tells me he's relieved there's no time limit, no queues of hundreds of people waiting eagerly outside, and he takes the opportunity to give me a slower, more detailed demonstration, stopping to take a closer look at things. It's a game world that aches to be studied and scrutinised, with a cluttered, lived-in feel that few virtual worlds manage to accomplish this well.

One of the most striking things about the game's setting, Night City, is how vibrant it is compared to the dark, rain-soaked dystopias usually associated with the genre. Cyberpunk 2077 is set in a future California, and writer Stanislaw Swiecicki tells me that the studio is going to great lengths to capture the Golden State's distinctive atmosphere.

"We want to give Night City a Californian feel," he says. "It's not just another abstract dystopia. I visited LA for the first time this year and it was very inspiring, especially walking along Venice Beach. We want to bring some of that vibe to the game. The sun, the palm trees, but a darker side, too. It's an incredibly diverse place, with all these different people, fashions and cultures sharing the same space, but it can also be dangerous."

As we walk through Watson, a bustling shopping and entertainment district bombarded by neon billboards, the passing hordes of citizens give me a sense of this diversity, and I don't see one repeated character model. Crowds are generated semi-procedurally to avoid repetition, mixing body parts, faces, clothes and hairstyles, and CDPR promises the finished game will feature an even greater variety of heights, weights, and body shapes.

"Watson is a multicultural district with a strong Asian influence and a rising crime problem," says Swiecicki. "But there are other districts too, each with their own unique feel. Westbrook is where the middle classes live; Heywood was once home to the tech giants, but abandoned and left to rot; and Pacifica is a suburban district ruled by gangs, and the most dangerous place in the city. Wherever you are in the city, there's a layer of darkness."

The complexity and fidelity of the city is astonishing, both on a grand scale and in the finer details. The entire game is first-person, viewed through hero V's eyes, letting you get closer to the world than Geralt ever did. A street market is a particular feast for the eyes, with dozens of vendors hawking their wares and flipping heaps of sizzling noodles in woks. Above them digitised petals fall from a holographic cherry blossom tree and trains skim silently along monorail tracks. I've never experienced such a dense videogame city before, which extends to the audio design. The sound of people talking, sirens blaring, music playing and those ever-present advertising billboards chattering over the top of one another in a dozen languages only adds to the turmoil.

"The devil is in the details," says Maciej Pietras, lead cinematic animator. "The third-person camera in The Witcher floated slightly above NPCs, which we took into account when animating them. But now you can really look at what they're doing up close, and we've improved the animation to reflect this. When we animate characters, even the NPCs, we think about their personality and their past. The way they move or something in their face might reveal something about them. We work from the inside out.

"We also changed the way we do facial animation, moving to a new muscle-based system," Pietras adds. "We have a huge

> V is much more malleable, allowing for a deeper roleplaying experience...

library of facial animations, which I think is important in a first-person game. You can get close to people now, and this new tech lets us pick out more subtle details in the faces. When you first see a street vendor he'll be trying to sell you something, calling you over to look at his food, and you should be able to see enthusiasm in his face as well as his body language."

CLOSE UP

In the waiting room of Dr. Victor Vector, a so-called ripperdoc specialising in cybernetics, I ask the guy playing the game to stop and use V's new ocular implant to zoom in on some of the props in the room. In the YouTube demo the person playing dashes through here without stopping, but taking a closer look, it's a remarkably detailed space. I see rows of maneki neko on a shelf (those little waving cats believed to bring good luck) and a gorgeously detailed statue of an oni, a Japanese demon, shrouded in incense smoke. I also get a closer look at Vector himself, who's watching a boxing match on TV, and has a boxing glove-shaped pendant hanging from his neck.

What we've seen of Cyberpunk 2077 so far has been largely focused on action, but Swiecicki reassures me that this is just one aspect of the game. "Some cyberpunk is more pulpy and driven by action," he says. "Stuff like Terminator or RoboCop. But then there's the more philosophical side of the genre. Think Blade Runner or Ghost in the Shell. Our mission is to give players strong elements of both. You'll experience the thrill of using cybernetic implants and high-tech weaponry in combat, sure, but there's also depth in the story. We want to ask questions about what identity and individuality are in a world where people are so closely connected with technology."

The focus on action in a demo, Swiecicki explains, was a result of them wanting to show off as many game systems as possible. "Storytelling is hugely important to us as a studio," he says. "We want to tell stories that resonate with people on an emotional level and ask important questions. So there will be a lot of that in the actual game. It's an important part of the genre."

Pietras adds that everything starts with story at CDPR, and that every department, from quest design to cinematic animation, has an intimate working relationship with the writers. "In one scene the writers wanted Meredith Stout, a corporation boss, to look visibly nervous and frustrated, because she knows someone in her corp is trying to screw her over," he says. "So we took that direction and animated her accordingly."

Another of CDPR's high level goals for Cyberpunk is making the game as seamless as possible, from being able to move around the city without any loading breaks, to conversations. "In The Witcher you talk to someone and there's a transition to dialogue, then back to the world when you're finished," says Swiecicki. "But here we want the blend of story and action to be seamless, which is really challenging from a writing perspective. If you turn and look at something during a conversation, we want the NPC to notice. We want the reactivity in the game to be super high. It's almost like you're an actor in a scene, rather than just passively watching it play out."

While Geralt was an established character with a long history, V is much more malleable, allowing for a deeper roleplaying experience. "The key rule for us is that V is you," says Swiecicki. "The choices you make will affect the story and shape the character. But at the same time, V is not a blank slate. They're a mercenary on the rise, they want to become a legend in Night City. There's a character there, but you get to play around with them and give them more shades than you could with Geralt. The game is a journey and there is an end to it, but you get to decide which paths V takes to get there."

One of the major ways you'll shape V is through quests. "We want the characters you meet in the game to respond to you and your actions," says Patrick Mills, quest designer. "That's not just about having enough points in a certain stat or something like that. Instead it's like 'Did you talk to that guy earlier? What information did you get?' If you found the information, you can use it later. If you killed the guy's friend instead of doing something for him, he won't help you anymore. We love that kind of reactivity.

This is what health insurance looks like in the future.

The environments are astonishingly cluttered.

'Road rage takes on a whole new meaning...

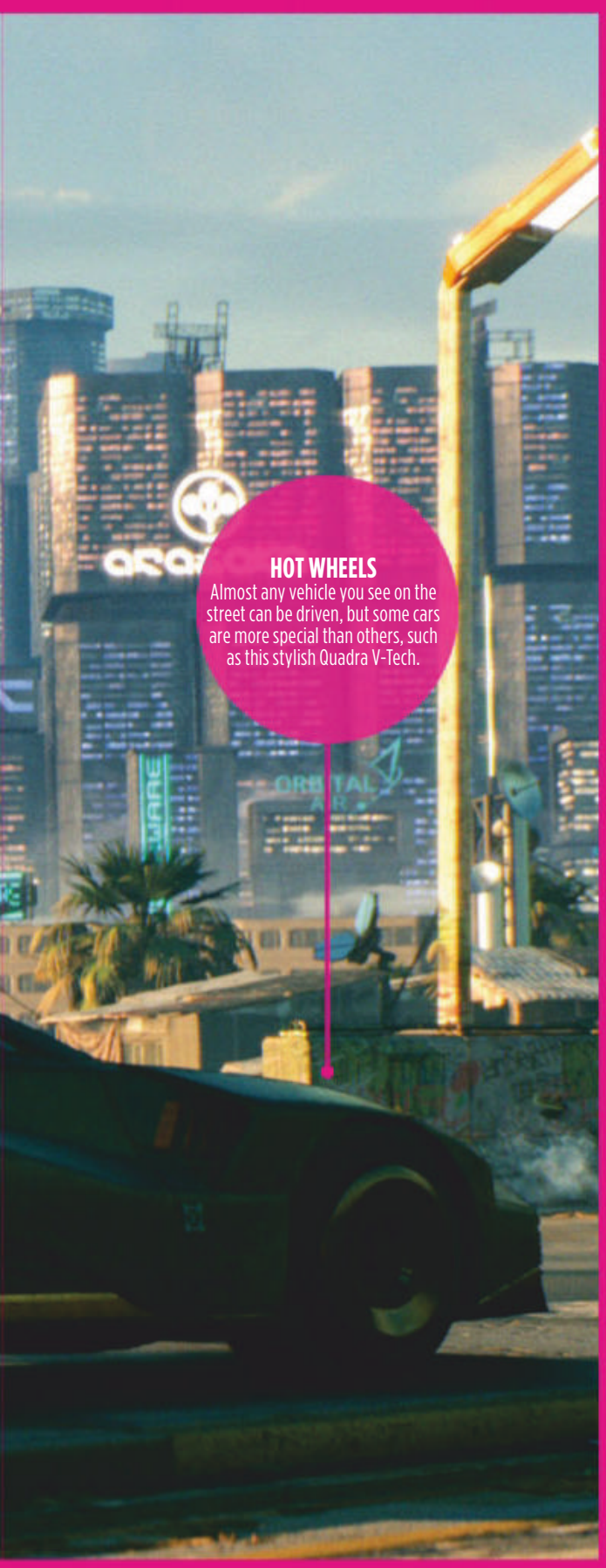
The Afterlife club is a mercenary hangout.

FASHION ICON
This jacket, and other clothing, has a 'cool' rating that affects your rep on the streets. But you can choose if you care about being cool or not.

CITY SLICKER
Earning a reputation as a mercenary in each city district gets you more work, but you'll make a lot of powerful enemies along the way, too.

A cab full of guns? Looks suspicious.

> There are so many narrative hooks that can lure the player in...


HOT WHEELS
Almost any vehicle you see on the street can be driven, but some cars are more special than others, such as this stylish Quadra V-Tech.

"It's a major goal of ours to make sure all of our quests say something about the world," he adds. "Sometimes we'll just want to explain how something works and build a quest around that. Other times we'll be going deeper into a theme that's only touched on in the story. Or maybe it's driven by character and the quest is built around a personal journey. Our quests are about building the world, setting the mood, and exploring themes."

Mills explains that the quests he designs are fed back to QA, which will give them a 'logic pass', outlining things they think they should be able to do. If it makes sense for the player to solve a problem in a particular way, CDPR wants to cater for it. "There is room for emergence," he says when I ask if the game will share any qualities with immersive sims such as Deus Ex. "It's not exactly Breath of the Wild, but it does happen. We'll build something imagining players doing it a certain way, but QA will play it and say: 'I should be able to do this.' Then that gets added, and the complexity increases. So interesting stuff emerges more from the logic than the systems."

JOB CENTRE

The future setting also gives CDPR many more ways to throw quests at you. "Having a setting with telecommunications makes all the difference," says Mills. "It's also more immersive. How do you get a 'quest' in the real world? Usually it's a phone call or a text message: 'Can you go pick up groceries?' Our open world team is constantly filling the city with little events that can feed into quests. You'll see some dudes on the street, and eavesdropping might lead to a quest. Or maybe because you talked to them, you might see them a couple of hours later in another quest and get some reactivity there."

"Compared to a medieval world, a bustling metropolis is much better for drawing players into quests," adds Swiecicki. "You'll be walking along the street and suddenly you'll be drawn into a story. There are so many narrative hooks that can lure the player in, and that's something we love doing. People loved the quests in The Witcher that would start out simple but grow into something bigger, more complex, and we want to bring that to Cyberpunk."

Ask someone what their favourite quest in The Witcher is, and chances are it'll be a sidequest. CDPR is one of the few devs that makes optional quests that are worth your time – something it hopes to bring to Cyberpunk. "A lot of us really prefer working on sidequests, because you can tell self-contained stories," says Mills. "We're also aiming to make the production values as high as, or close to, the critical path. There's a length limitation, so we can't really rely on a full three act structure, but we want to make sure there's something unique and cool about all of them. If I proposed a quest that was to go and recover a stolen item for someone, then bring it back to him, that would not be approved. That's fine for smaller events, but a quest has to have something you've never seen before.

"I wish I could give examples, but one of the things I most enjoy is creating quests that fully subvert your expectations. One of my favourite encounters I designed for The Witcher 3 was being approached by a taxman, which triggered if you were carrying a lot of coin. He shows up and asks you where you got all your money, and calculates how much tax you owe. These are the kinds of things that flesh the world out, and I want to do something similar in Cyberpunk. This isn't just a world where people are shooting each other all the time. Yeah, you're a mercenary, so your job is shooting people, but you'll have other things to do as well that are very different."

During the hour I spent interviewing these three developers, not once did any of them go into specifics about story, quests, or anything else for that matter. CDPR is keeping Cyberpunk 2077 extremely close to its chest, and I could see the developers internally wrestling with themselves, trying not to go into the particulars of what they were talking about. So even though I've seen the demo several times, including once up close and personal, and heard a lot about it, there's still an air of mystery around the game. I'm remaining cautiously optimistic until I actually get my hands on the thing and really test the limits of the quest design. But until then I'm still hugely excited about what CDPR has planned, and can't wait to explore the streets of Night City.

ANDY KELLY PC

Cyberpunk: A tabletop history

Listen up you primitive screwheads...

For a lot of people, Cyberpunk 2077 begins with that first amazing trailer back in… wow, back in 2013. You know the one – a still image in 3D, of a highly cyborged woman who has clearly gone psychotic, surrounded by bodies, and about to be taken down by C-SWAT. The one with the fantastic track Bullets, by Archive (still well worth listening to).

Yeah, *that* trailer.

But Cyberpunk's history as a tabletop game goes back way, way farther than that. In fact, it starts with a black box with three smaller black books inside, in the dim, dark, neon-coloured days of 1988. Yep, right when Australia was going mad with bicentennial celebrations, a small tabletop publisher decided to hitch it's wagon to a growing science fiction literary movement called cyberpunk. It had been growing since the sixties, with writers as diverse as Roger Zelazny and Philip K. Dick all looking at the convergence of modern culture, drugs, and technology. As early as 1983 the term was being bounced around by a number of authors and critics, but the term hit the mainstream with the publication of William Gibson's Neuromancer in 1984.

Cyberpunk as a roleplaying game owes all of these writers a massive debt, but it's most direct inspiration was Walter Jon Williams' Hardwired, published in 1986. I mean, the Wikipedia synopsis is pure Cyberpunk RPG:

"The Orbital Corporations now control the world. In the ruins of an America ravaged by the Rock War, ex-fighter pilot Cowboy, who can be 'hardwired' via skull sockets directly to his ride, has become a panzerboy, a hi-tech smuggler riding armored hovertanks through the balkanized countryside."

In fact, Williams helped playtest the game, and even worked with R. Talsorian Games – the company that Mike Pondsmith still chairs to this day – on a supplement based on his novel.

CYBERPUNK 2013

That first black box edition was simply called 'Cyberpunk' upon release, though it is better known as 'Cyberpunk 2013' these days, after the year in which the game was set. Between the three included books a whole new world of the dark neon future was sketched out. This was a game that unapologetically combined an 80s aesthetic and mindset (both greed and shoulderpads were good), with a kind of hyperviolent nihilism.

The first book was *Welcome to Night City*, which described the game's setting as a vast metropolis that combined the best and worst aspects of cities like Los Angeles and New York, while also outlining the future history that lead to such a future – events like the Corporate Wars and the devastating political disaster of the 1994 collapse.

> "...it was a game about struggling to stay alive on the meanest streets in town."

Then you've got *View From the Edge*, which has most of the game's rules, including character classes – yes, you can be a guitar-playing Rockerboy or Gal, or even a crusty, bike-riding Nomad – and a unique character path system that built up a semi-random history for your neophyte cyberpunk. It says a lot about the setting that an entire chapter focuses on player death.

The final book points out why death is so likely. *Friday Night Firefight* is one of – in my opinion – *the* great RPG combat systems. It's a relatively slim volume, but covers a lot, and it is truly lethal. The mechanics were written around real statistics of urban shootings, and after a quick read through any player should understand that violence really is a last resort, because guns will kill you dead real fast.

This was not a system that was about growing a character to some godlike level of power, like many of the fantasy staples of the time – it was a game about struggling to stay alive on the meanest streets in town.

CYBERPUNK 2020

Suffice to say, the game was a hit, and eventually led to the publication of Cyberpunk 2020 in 1990. Instead of a box of three books, this new edition came in one softcover volume, and both streamlined and added new material, while also taking into account some of the more important world events between 1988 and 1990 – most dramatically, the German reunification.

One of the things that set these editions apart was that while Friday Night Firefight had a pretty small but detailed set of stats for modern weapons (Oh, .44 Automag… you were so GOOD!), 2020 had a more complete list of future firearms and weapons, and the cybernetic modifications on offer were also much deeper.

Also added was an enlarged chapter on drugs, which is of particular interest to Australian audiences waiting on Cyberpunk 2077. This is a game – and a genre – that has drug use and abuse at its heart. For most of the book, the main character of Neuromancer is just looking to get high again, while in 2020 the list of ways you can kill yourself with chemicals – and gain a bit of an edge – is pretty impressive. Like the book says "What's a Cyberpunk game without drugs?"

Answer: "A *lot* healthier."

It was also supported by a wide range of sourcebooks, that added more gear, more ways to die, and greater setting detail. The various Chromebook publications (I swear, R, Talsorian should sue Google – or mount a corporate raid) added a wide variety

of gear, while other supplements took the action to deep space, or to other countries, or focused on things like law enforcement and hacking.

CYBERPUNK NEXT?

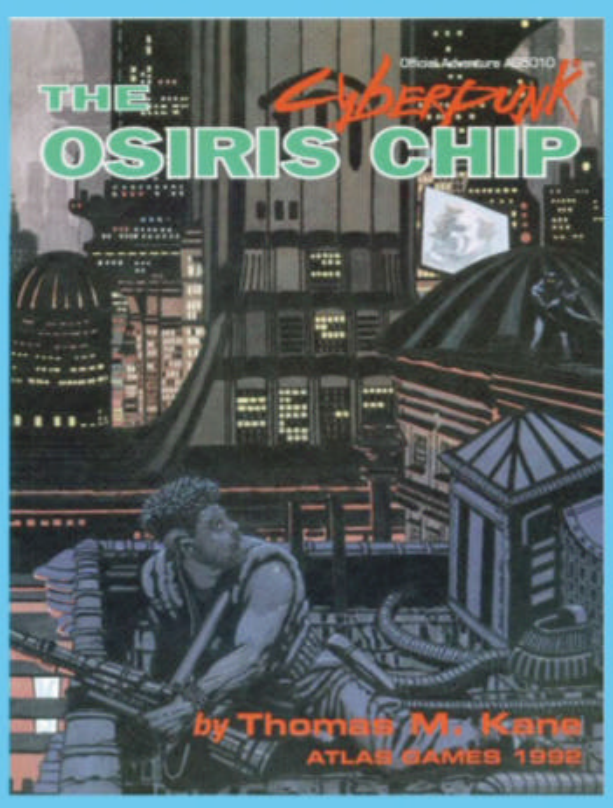
Cybergeneration was the next iteration of the rules, and like 2020, it also advanced the setting somewhat, to now look at how teenagers that had grown up with this new terrifying technology have become powers in their own right. A Cyberpunk V.3 trickled out eventually in 2005 – Pondsmith was distracted by working on The Matrix Online, which is one hell of a blast from the past – but the generational changes in the game made it almost unrecognisable.

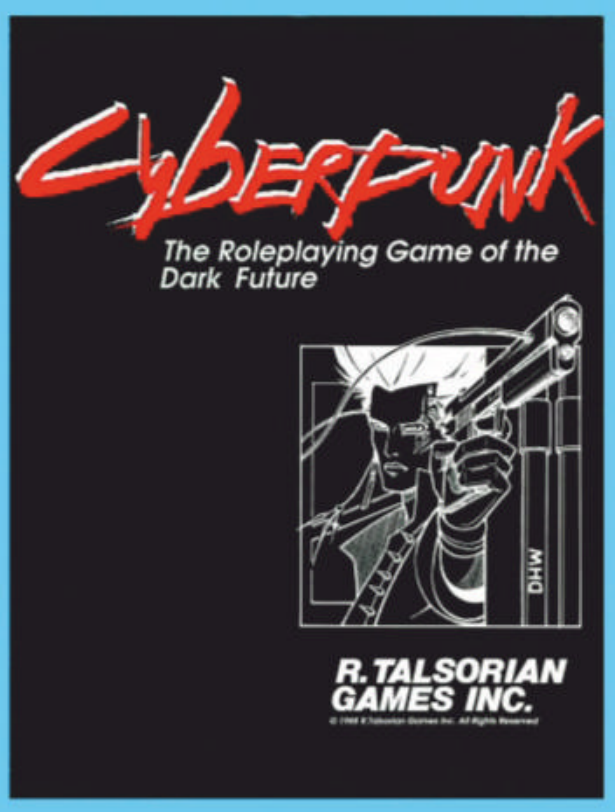
For a lot of players, it just wasn't cyberpunk anymore.

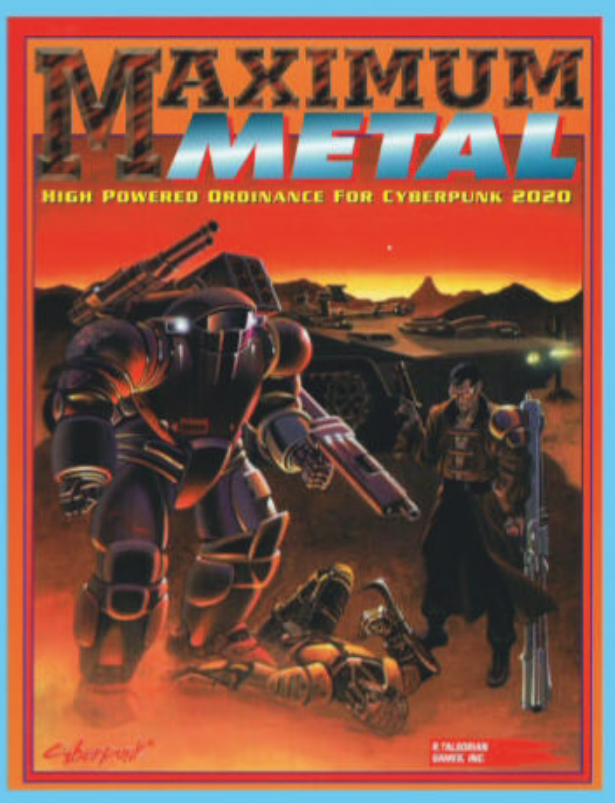
But the cyberpunk tale ain't over yet. With Cyberpunk 2077 so heavily working with R. Talsorian Games and Mike Pondsmith, a new edition of the tabletop is apparently 'very close'. There's no hard date yet, but the cleverly named Cyberpunk Red is currently a work in progress.

Where will that take the game? I have no idea, but I can't wait to get there. PC

David Hollingworth







DEVELOPER AMANITA • **PUBLISHER** IN-HOUSE • **RELEASE** 2019
www.amanita-design.net

Creaks

Making use of things that go bump in the night

A tonal swerve takes Amanita Design from the comedic daftness of *Chuchel*'s cherry-based point-and-click and into the mysterious Gothic platform puzzles of *Creaks*. This is a game about lights and ladders where you must lead your pullover-wearing character through a labyrinthine house while avoiding monsters. You use light to convert snarling beasts into household objects which you can clamber on or use to press switches. It's a way of using childhood fear as a game mechanic: a terrifying shape in the corner of the room is definitely a wolf right up to the moment you switch on the light and reveal... an innocent dressing gown.

PHILIPPA WARR PC

INKSCAPE
The ominous, scratchy ink art style immediately reminded me of the work of illustrator Edward Gorey – and the sombre colour palette accentuates the twilight feel of the game.

SCARY TALES
Moment to moment you're figuring out how to get to the next ladder but the demo hints at a bigger foe. Talons scratch on the roof and a gang of mysterious figures consult a book.

DANGER!
Monsters spring to life in the gloom – robotic dogs will give chase, stick figurelike people will mimic your character's movements and spike you if you get too close, a jellyfish patrols an area...

HOWEVER!
...turn on a light and the beam transforms the monster into a piece of completely harmless furniture, which is useful for activating switches or giving you a leg-up to a nearby dangling ladder.

DEVELOPER SUPER ENTERTAINMENT • **PUBLISHER** IN-HOUSE • **RELEASE** 2019
www.spinrhythmgame.com

Spin Rhythm

A wildly addictive rhythm action game.

There simply aren't enough rhythm action games on PC, but Australian developer Super Entertainment is helping fix that with the massively entertaining Spin Rhythm. It combines elements of DJ Hero and Rock Band, but gives the genre its own spin with a fantastically tactile wheel-based input system.

At the bottom of the screen is a two-colour wheel, and it's by turning this that you interact with the music and keep the beat flowing. Then things get more complex as button taps, spins and other twists to the formula stack up during a song. It's a beautifully elegant control system, and makes you feel genuinely connected to the music, as all good rhythm action games should.

The music in the game comes courtesy of a number of independent electronic artists including Hyper Potions, Subtact, Seejay, and Oxford Parker. Chances are you haven't heard of them, but rest assured the music – from lazy chiptune beats to pounding glitchstep – is perfectly suited to the game.

Spin Rhythm will support a number of MIDI controllers out of the box, meaning you can control the wheel by spinning a physical turntable, and judging by a demo video the studio released, it looks like it might be the best way to play it. But I don't have that luxury, so I'm reduced to using my keyboard and mouse. But even so, it feels wonderful to play, and nailing a rapid-fire series of beats is thrilling.

ANDY KELLY PC

1 The circular beat markers are the simplest interaction in *Spin Rhythm*. All you have to do is move the wheel and make sure the correct colour hits them. Although, in some of the trickier songs, spinning the wheel to hit a lot of them in

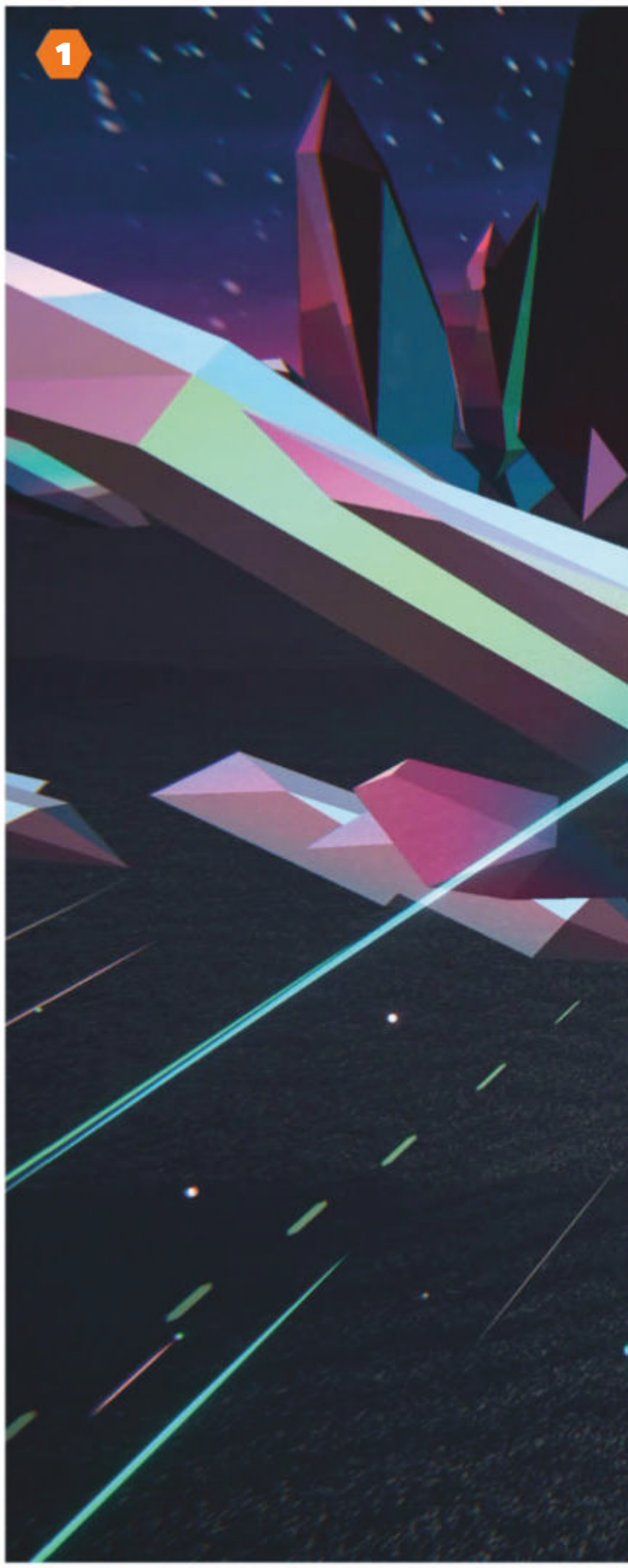
2 Rectangular markers up the challenge. Not only do you have to make sure the correct colour is lined up on the wheel, but you have to tap the beat button in time with the music. In faster songs, the frequency of these markers increases massively.

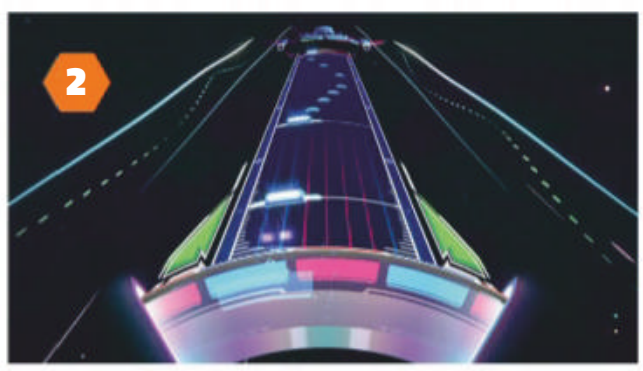
3 When you see these long, twisting lines you have to hold the beat button down and move the wheel to follow the trail. If you veer out of the line at any point you'll lose your combo. And these often finish with another beat, meaning you have to be ready to tap the button again at the end.

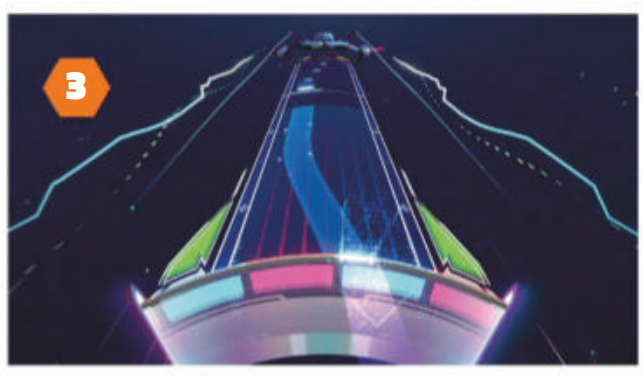
4 When you see these sections of track you have to hold the wheel and spin it in the indicated direction. The tricky thing about this is coming out of a spin and making sure the wheel's set to the correct colour for the next part of the song.

5 Red X markers mean you've missed a beat, which causes the music to distort like a DJ spinning a record back. In the preview build I played, failing three times unceremoniously results in a game over, which can be frustrating. Hopefully there's a more forgiving practice mode come release.

6 The game is incredibly stylish, although I must admit, having to tilt my head to read the song titles on this admittedly classy-looking menu feels a bit awkward. The game will launch with a large selection of tracks, and I'm hoping there'll be modding tools to add my own music to the playlist eventually.



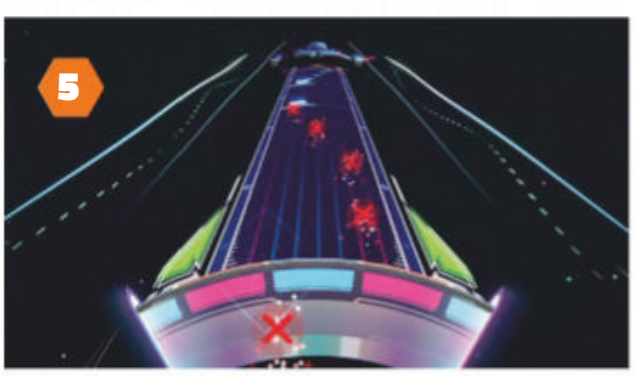




> "You can control the wheel by spinning a physical turntable..."

Score
0016

4
Score
0080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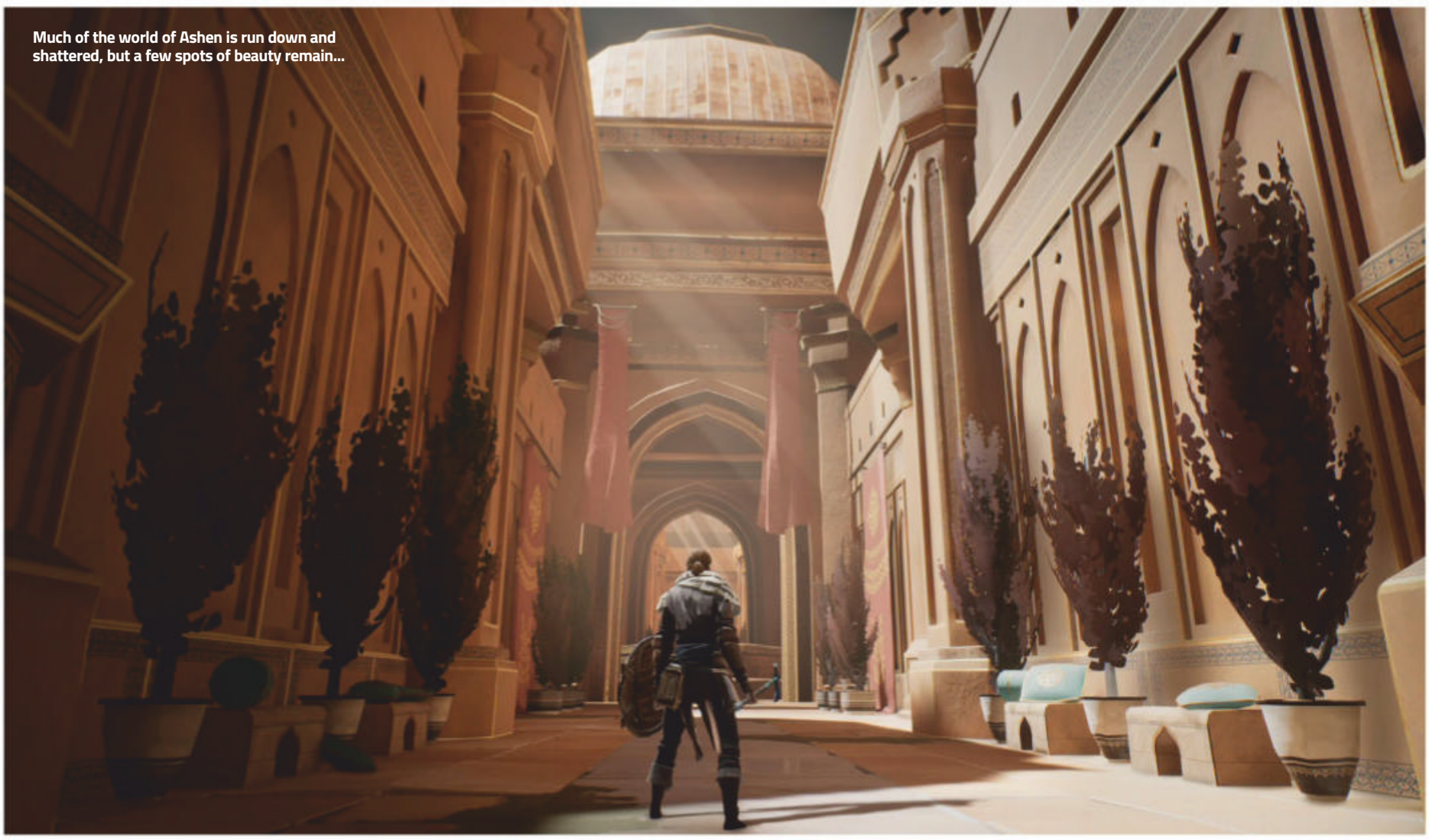
6
SPIN
Rhythm



Much of the world of Ashen is run down and shattered, but a few spots of beauty remain...

Life from the ashes

In Ashen, you get to rebuild a fallen civilization... in between thrilling action!

One of the highest pieces of praise I can give any creative work is this:

"Wow, I wish I'd thought of that."

With Ashen, it's not because I'm a game dev, but rather at just how atmospheric and enthralling the game's story is, and how simply and elegantly the world is built around you. At its simplest, Ashen is a game with stamina-based combat that will be familiar to any fan of Dark Souls, but it's the world itself that grabbed me, and it did so in the first five minutes of my hands-on session at PAX Australia 2018.

Visually, the game's stunning art style reminds me of Absolver, with a muted colour palette and simple but expressive character models. It's a smart move for an indie studio aiming to make an ambitious open world game, and it certainly sets itself aside from other titles in the genre. But the elemental nature of the art also expresses something about the world and those who live in it.

Each age of the world of Ashen is expressed in a birth of light, and it passes into darkness, and each age also sees the rise of a new race – humanity is just the latest, but it too has now passed into a time of darkness. However, there is a glimmer of hope – and light – on the horizon.

While you'll spend most of your time out and about in the world, fighting with raiders, grabbing phat lewts, and finishing quests, the spine of the game is about building a community. One of the first things you do in the game is to create a safe space from the chaos of the world, and as you explore it, you'll meet people you can invite back home. You'll help them in a quest, or they'll help you, and when you return to your refuge, someone will have moved into a run-down hut, or built something entirely new. As you keep working with them, they'll build and grow with you, bringing new capabilities to your growing town. Effectively, you are the change you want to see in the world.

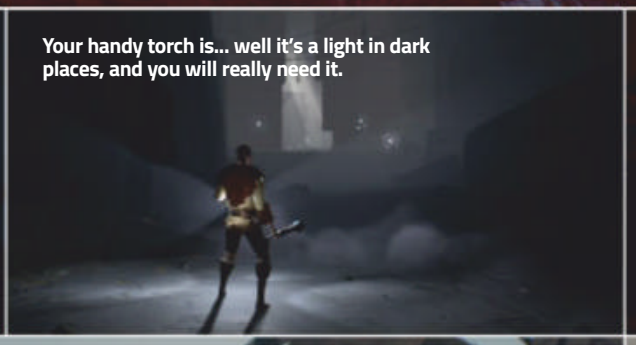
You're also pretty mean in a fight, thankfully, so part of that change is about making live bad guys very, very dead. The more and heavier you attack, the more you drain your stamina bar, so timing your attacks for maximum effect, and watching your spacing so you don't have to dodge too much is of paramount importance. The open world environments are often quite busy, too, covered in foliage and rock outcroppings, to it pays dividends to be aware of your environment at all times. This can work against you. You can fail to dodge because a tree is blocking your path, and take a big hit; or, on the other hand, the verticality of the world means you can maneuver enemies into fatal falls. The combat is fast, responsive, and has a lovely weight to it – you will die, of course, but that simply sees you respawning at a mystical standing stone in your growing village.

And while the raiders that come at you singly and in packs, in melee and at range, are a challenge you can easily rise to, some monsters and other bosses have a whole different bag of tricks to throw at you… Integral to beating these encounters and generally staying alive is the game's passive multiplayer system whereby your companion may be being played by the game's AI or another player (with you being their companion character). In that respect the game feels a lot like PlayStation's Journey – you can't communicate with these other players, so you're left to work out how to work with them in wholly different ways.

I'm generally not a fan of this style of game, but the sheer charm of Ashen's world, with its lost and hopeful cast of characters searching for a new light in the darkness, has me keen to see more of the world beyond my brief hands on time on the show floor.

DAVID HOLLINGWORTH PC

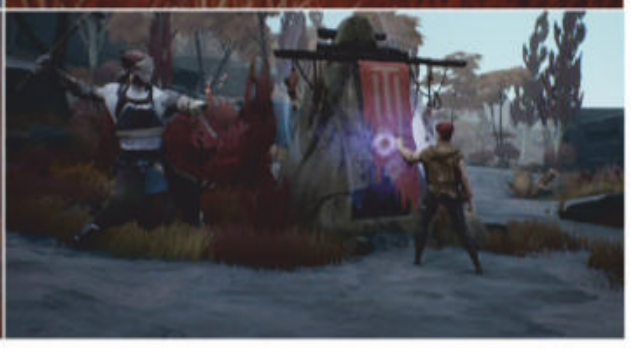
> "As you keep working with them, they'll build and grow with you..."



Your handy torch is... well it's a light in dark places, and you will really need it.

Diifferent weapons have different attack speeds,.

"HELLO WOULD YOU LIKE TO SIGN MY PETITION..."



THE HISTORY of the STRATEGY GAME

PART I

By FRASER BROWN

RIGHT: Eastern Front brought innovations like troop morale.

BELOW: Reach for the Stars gave players a whole galaxy to conquer.

LEFT: On microcomputers like the Apple II, strategy games found a new home.

he history of computer strategy games begins on tables and boards, crammed inside cupboards alongside that knackered old box of Risk that every home seems to possess. The moment strategy made the leap to consoles and computers, it was already familiar. These weren't just inspired by the games people were playing, in many cases they were direct copies that had been squeezed, sometimes awkwardly, onto a new platform.

In 1972, Invasion was released for the Magnavox Odyssey. It was Risk, essentially, but with Pong-like battles that were fought on top of overlays that had to be slapped on the front of the television. Aside from the battles, Invasion was mostly played on a physical board, so the actual strategy game didn't really take place on the console at all. The Odyssey's limited capabilities ended at displaying a few squares that could be moved by twiddling the knobs attached to the little boxes that served as controllers.

The success of microcomputers like the TRS-80 and Apple II inspired a new wave of tabletop adaptations, spearheaded by Strategic Simulations Inc.. So began a cavalcade of wargames, and more than a few RPGs, that would last for around 20 years. Founder Joe Billings had shopped around the idea of making adaptations of existing wargames to tabletop publishers like Avalon Hill, but had no takers. That didn't deter him. SSI's first game, Computer Bismarck, bore a striking resemblance to Avalon Hill's Bismarck. The publisher noticed.

Quickly, Avalon Hill started releasing its own games on computers, competing with SSI. The pair churned out wargames with dizzying momentum, but SSI took the lead early, launching 12 games in 1981. Some of these games were tabletop wargames with a digital component – their boxes full of tokens, maps and thick manuals – but others, including Computer Bismarck, featured AI opponents and could be played entirely on a computer.

Eastern Front (1941), published by Atari in 1981, immediately made its contemporaries seem antiquated. It was one of the first great leaps forward in strategy gaming, presenting players with a single year of Operation Barbarossa, the German invasion of the Soviet Union, where everything from troop morale to the weather played a role. It was meaty, complex and took advantage of the platform instead of trying to work around it.

Atari had been dubious at first. Designer Chris Crawford had to go through the Atari Program Exchange, which allowed anyone to submit games that, if approved by Atari, would be

sold on its mail order catalogue. It became one of APX's most successful games, making Atari immediately rethink its position on publishing wargames.

Wargames based on the Second World War didn't have the battlefield to themselves. 1983's Reach for the Stars tasked players with dominating the galaxy with a powerful economy and lots of fancy sci-fi technology, not just big fleets. It had most of the hallmarks of a 4X game – explore, expand, exploit and exterminate – a decade before the term was coined. Reach for the Stars was developed by Strategic Studies Group, an Australian wargame studio, but SSI and Avalon Hill were both playing around in space as well. SSI's Cosmic Balance II and Avalon Hill's Andromeda Conquest

STRATEGY GAMES STILL DIDN'T VENTURE TOO FAR FROM THEIR ROOTS...

both contained 4X elements, but they were primarily focused on combat.

Strategy games still didn't venture too far from their roots, but by the mid '80s the landscape was almost as vibrant as it is today. At the same time Reach for the Stars unwittingly became the first 4X game, Nobunaga no Yabou launched in Japan, starting a grand strategy series that continues today. Two years later, the same developer, Koei, released Romance of the Three Kingdoms, another grand strategy affair, but this time set during a different historical period, beginning another long-running series that's also still kicking. Koei took a holistic approach to empire-building, with harvests

ABOVE: Computer Bismarck kickstarted the wave of computer wargames in 1980.

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BUSHELS IN STORE = 4107
ACRES OF LAND = 1630
PEOPLE = 178
*  *  *  *  *  *  *  *  *  *  *  *

YEAR 11  - DO YOU WANT TO RETIRE?
TYPE G TO GO ON, OR S TO STOP. R

IN YOUR 11 YEAR TERM OF OFFICE, 1 PERCEN
T OF THE
POPULATION STARVED PER YEAR BECAUSE OF
YOUR RULE.
A TOTAL OF 18 PEOPLE DIED!!
YOU STARTED WITH 10 ACRES PER PERSON AND
 ENDED WITH
9 ACRES PER PERSON.

YOU GREW A LOT.  YOU'RE AN EXCELLENT
KING BUT YOUR NEIGHBORS CALL YOU AN
IMPERIALIST PIG.  WATCH OUT FOR WAR.

SO LONG FOR NOW.

>
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THE CODE OF LAWS

Hamurabi was a strategy precursor that could be found in schools and on mainframes in the '60s. Originally known as The Sumer Game, it was rewritten in BASIC and spread to microcomputers in the '70s. Unfortunately it was more like maths homework than a game. Hamurabi proved to be popular with prospective programmers. After being published in BASIC Computer Games, a collection of type-in programs, people started making custom versions. These programmers included Walter Bright, who was originally working on a Hamurabi game before creating the Civilization progenitor, Empire.

Civilization aimed to capture the entire history of humanity.

RPG ME

Strategy games and RPGs have long been chummy, perhaps thanks to them both originating on tabletops. 1984's Lords of Midnight could be played like an RPG or a wargame, with the hero either going on an adventure to destroy a magical MacGuffin or raising an army of warriors and wizards to storm the Witchking's citadel. The '90s had the likes of King's Bounty and its successor, Heroes of Might and Magic, where heroes led armies across fantasy lands, fighting tactical battles, besieging castles and levelling up. There was a hint of city-building and empire management, but the character progression and exploration owed everything to RPGs.

BELOW RIGHT: Building was just as important as tearing things down in Civ.

BELOW LEFT: It was wealth, not conquest, that drove M.U.L.E..

and peasant loyalty mattering just as much as armies.

Not every conflict involved clashing armies. M.U.L.E. pitted players against each other in a game of greed on an offworld colony. The eponymous M.U.L.E., a cute AT-AT-inspired hauler, harvested resources, which could then be used, sold or hoarded. There was room for cooperation, competition and plenty of backstabbing, making it a compelling multiplayer game for the few that bought it. In 2016, Civilization IV designer Soren Johnson developed a considerably more successful spiritual successor, Offworld Trading Colony.

Throughout the '70s and '80s, Walter Bright was intermittently working on Empire, initially inspired by Risk. In 1983 he released it commercially. He sold two copies. Bright released a new version for PC the next year and Empire found its audience, along with a publisher in 1987. Like its inspiration, it was a game of conquest, but there were hints of management, with conquered cities being tasked with building various units, from infantry to aircraft, and an exploration phase where players could push back the fog of war. The latter struck a chord with a pair of strategy

designers, Sid Meier and Bruce Shelley.

MicroProse, founded in 1982 by Sid Meier and Bill Stealey, wasn't initially a strategy game developer. Its first three games, all designed by Meier, comprised a dogfighter, a platformer and a shooter. A year later, Meier released his first strategy game, NATO Commander. Like Eastern Front, armchair generals had to worry about morale and external factors, but NATO Commander had the additional wrinkle of playing out in real time.

After NATO Commander, Meier bounced between genres again, until, in 1985, he designed Crusade in Europe, his second wargame, and the first in the Command series. It was heavily based on NATO Commander, and so the

MEIER'S NAME WAS PLASTERED ON A LOT OF BOXES, SPREAD ACROSS A LOT OF GENRES.

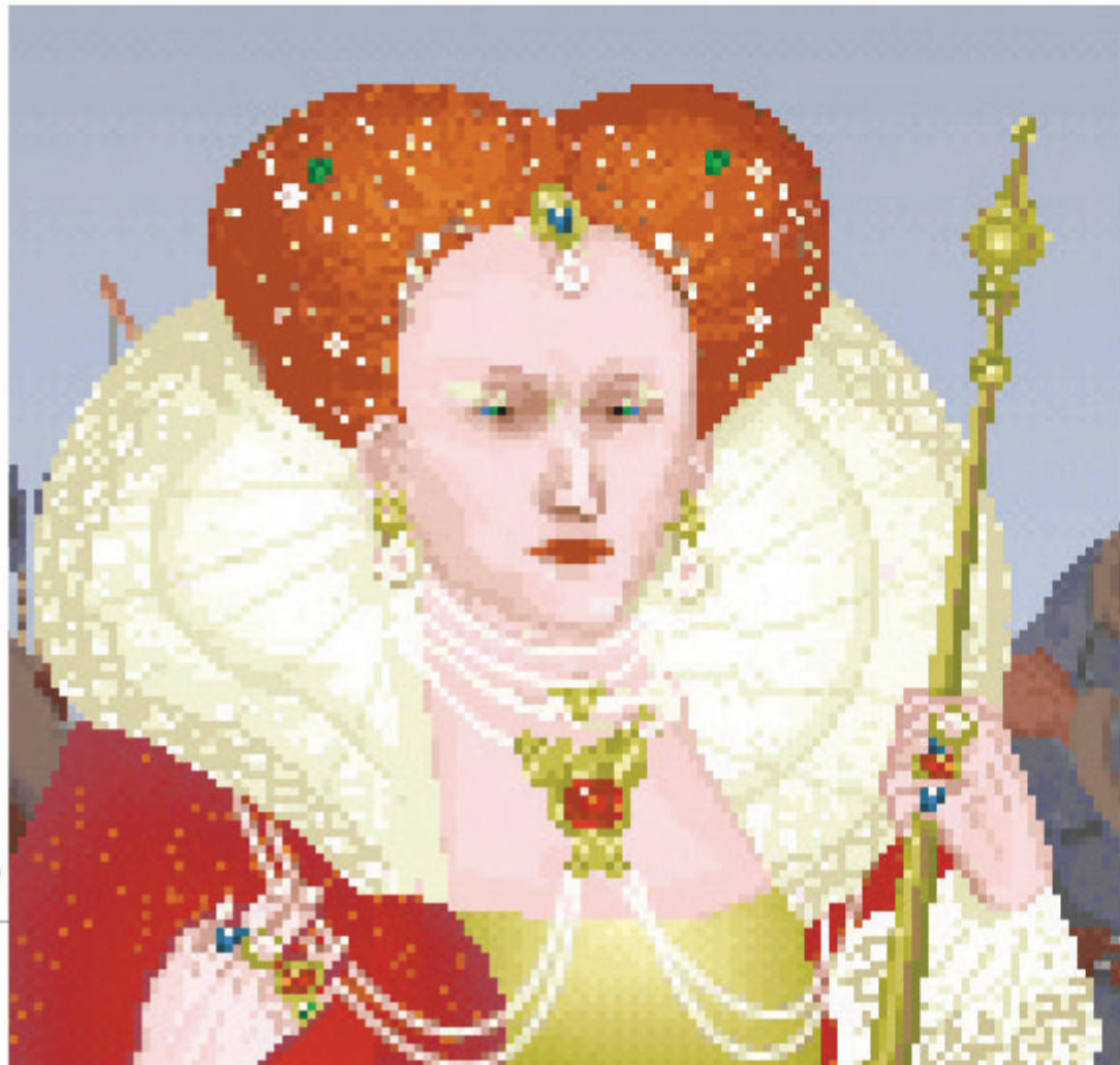
legacy of Eastern Front continued. Then came Pirates! and Covert Action and even more flight sims, and along the way the games started to pick up Meier's name. It wasn't just Covert Action, it was Sid Meier's Covert Action. By 1990, Meier's name was plastered on a lot of boxes, spread across a lot of genres. He and Bruce Shelley had just finished the management titan, Railroad Tycoon. Meier was itching to do something bigger. Managing a train company or commanding an army wasn't enough. The pair had its eyes set on something grander: the entirety of human history.

Civilization was a behemoth. It generated entire worlds on which various historical civilisations spread out and inevitably clashed. But it wasn't always adversarial. Though Civilization may have been inspired by wargames like Empire, Meier and Shelley also looked towards more peaceful games, like 1989's SimCity. It was as much about improving a civilisation with wonders and buildings as it was tearing across the map, wiping everyone out. You could engage in diplomacy, research new technology or reform your government. It kept people playing for one more turn, and then another. And it was almost an RTS. Meier tested it out, but ultimately found that it wasn't accessible. Civilization had so many systems that players needed to wrap their head around, and a turn-based game gave them more time to parse everything.

Across only a few years, MicroProse released a string of games that would go on to define strategy for decades. In the wake of Civilization came games like Master of Orion, the first game to receive the 4X moniker. It did for space what Civilization did for Earth, setting a high bar for future space outings. There was Master of Magic, too, which transposed the 4X formula to a fantasy setting where wizards built cities, researched spells and squabbled over magical worlds. The battles played out on isometric maps, while the wizards were like RPG characters; they were mutable and able to learn new traits.

PANZER GENERAL

SSI's Panzer General did away with the notion that wargames had to be complicated artefacts from tabletop gaming's past. It was actually accessible. There was still much to get stuck into – it was no less of a wargame just because it was welcoming. On top of logistical conundrums and combined-arms assaults found within each scenario there was a campaign layer that threw some persistence into the mix. Units gain XP and battle performance had an impact on the state you'd be in when you started the next scenario. The game led to sequels, an excellent spiritual successor, Panzer Corps, and the even more accessible, but also simpler, Unity of Command.



BELOW: Even in pixellated form, Queen Elizabeth I is a bit intimidating.

In 1994, MicroProse published UFO: Enemy Unknown, or X-COM: UFO Defense in North America, an elaborate tactical game full of Cold War tension and alien invasions. It was just the latest in a long line of tactical games from Julian Gollop. Rebelstar, Laser Squad and Chaos: The Battle of the Wizards saw Gollop experiment with different settings and systems, but while their influence was visible in UFO, it proved to be much more ambitious than anything that had come before.

Players ran X-COM, a unit specialising in dealing with an extraterrestrial menace. There was a strategy layer, the Geoscape, where the day-to-day running of the organisation took place, and then a tactical layer that took over during missions. It required no small amount of mental agility. One minute you'd be worrying about funding, then next you'd be commanding a squad of soldiers investigating a UFO crash site. It was tough, soldiers got killed off or left behind, and a palpable sense of dread accompanied every mission.

The original concept was a sequel to Laser Squad, with two players duking it out in turn-based tactical firefights. But MicroProse was all about big games. Civilisations that lasted for thousands of years, sprawling space empires, wizards fighting over multiple worlds – Laser Squad II didn't exactly fit the bill. The first change was the theme, at the suggestion of MicroProse. UFOs were very in. To match the scope of games like Civilization, Gollop and his brother Nick, UFO's co-designer, introduced the Geoscape and more big-picture management wrinkles. That management element not only made UFO larger than Gollop's earlier games, it became almost as integral to the series, and its imitators, as the dense tactical combat.

ABOVE: X-COM soldiers loved two things: killing aliens and bold hairstyles.

A Civilization sequel was inevitable. There was a hunger for strategy games, and other companies had already made successful iterative sequels. MicroProse gave it the green light. Civilization II, or Civilization 2000 as it was originally called, established the tradition of each game having a different lead designer. Brian Reynolds, who had previously designed Colonization, a Civ-style game of colonising the New World, became Civilization's second lead designer. Reynolds made a new tech tree, expanded the diplomacy system and completely overhauled the interface.

MicroProse was bought by Spectrum Holobyte, and the new bosses weren't very interested in Civilization II. It may have been the sequel to a groundbreaking game, but it was marketed halfheartedly. Word of mouth came to the rescue, however. The second Civ was a huge success, paving the way for yet more sequels, spin-offs and, in a strange case of role reversal, board games.

> *ALPHA CENTAURI* TOOK OVER FROM WHERE *CIVILIZATION* ENDED...

Meier, along with Brian Reynolds and future Civilization III designer Jeff Briggs, left MicroProse in 1996. Together they founded Firaxis. With its second game, after Gettysburg!, the fledgling studio charted the next step in civilisation. Briefly unable to work with the Civilization licence, Firaxis looked to the stars for inspiration. Alpha Centauri took over from where Civilization ended, or at least one of the places where it could end: people leaving Earth behind for a new life on a new world.

It was, and still is, a remarkable 4X game. Warring nations were replaced by complex factions that identified

You could take a closer look at Civilization II's cities.

with ideologies, not flags. While Civilization's leaders had the suggestion of personality, Alpha Centauri's seven factions (14 with the expansion) and their chatty leaders oozed character. And it was blessed with unparalleled flexibility. You could build an isolationist science commune guarded by elite, enhanced soldiers and tachyon shields, or immediately set out to unite humanity, gathering support from the other factions and pushing your agenda in the Planetary Council.

The sci-fi conceit opened the doors to transhumanism, mind-control and ocean cities, but it was never gratuitous. Guided by a narrative that led to the game's ultimate victory, Transcendance, Alpha Centauri was as cohesive as it was ambitious. It might not have been a Civ game, but it was more than a worthy successor to Civilization II, and the pinnacle of '90s turn-based strategy.

ABOVE LEFT: Alpha Centauri was more than just Civ in space.

ABOVE RIGHT: Civ II established several traditions, including each game getting a new designer.

WORMS

Don't trust anyone who doesn't smile when they think about this turn-based romp. Worms has thrown in classes and physics, and even had a brief misguided dalliance with 3D graphics, but ultimately it's always been about one thing: murdering worms. It's an all-time great multiplayer game and developer Team17 continues to get a great deal of mileage out of its clumsy invertebrates and their ever-expanding arsenal. Exploding sheep, holy hand grenades, concrete donkeys, missile strikes, even Street Fighter's dragon punch – the only issue is how long it takes to pick one. Luckily Worms also kept things ticking along, letting you set some much-needed time limits.

To find the first strategy games that were truly distinct from their tabletop forebears, we have to rummage through the annals of real-time strategy. While turn-based games dominated strategy throughout the '80s, the precursors to the RTS were appearing as early as 1982, with SSI's Cytron Masters. It was a simple real-time tactics game where players used energy created by generators to build robots and fight each other, clashing on a small grid full of bunkers and mines. In combination with games like Utopia, Modem Wars, and NATO Commander, it laid the groundwork for a new kind of strategy game.

Herzog Zwei is usually hailed as the first RTS. It's certainly the earliest that still looks recognisable today, and it's responsible for a multitude of mainstays. Released for SEGA's Mega Drive in 1989, it featured a transforming mech that could flit around the battlefield as a jet, but also turn into a ground unit and batter enemies. It was through this mech that players interacted with the battlefield, using it to transport troops between bases and fights, with the ultimate goal being the destruction of the enemy base. Units could be given orders, sending them to patrol a specific area, occupy a base or attack an enemy, and when they took damage, it was up to the player to heal them. It had micromanagement, a resource economy, bases and every moment of it took place in real time – it was an RTS. Unfortunately, it wasn't a very successful one.

ABOVE: Dune II was great, but it was no David Lynch's Dune.

Despite not setting the world on fire, Herzog Zwei's impact was still significant. It influenced the designers of just about every important RTS of the '90s, and more recently it's been credited with being a precursor to the MOBA genre. There's a shared philosophy that prioritises speed and mobility, and of course there are the similarities between Herzog Zwei's mech and future heroes and summoners. We're still 14 years away

Sandworms don't care how much armour your soldiers are wearing.

DESPITE NOT SETTING THE WORLD ON FIRE, *HERZOG ZWEI*'S IMPACT WAS STILL SIGNIFICANT.

from Defense of the Ancients.

Herzog Zwei may have kickstarted the RTS, but it was Westwood Studios' Dune II, three years later, that popularised it. The conflict was framed as a war over resources, with houses Atreides, Harkonnen, and Ordos fighting over spice, the drug around which the Dune series orbits. Scarcity drove the action, forcing the houses to compete over spice deposits that could be turned into credits, then buildings, then troops. It was constant escalation, and any time spent faffing around was time your enemy was spending getting rich and strong.

Into this war, Westwood flung environmental threats like Dune's infamous sandworms and shitty weather, powerful faction-specific units, and a campaign map that let you pick missions – it wasn't all brand new, but it was the first time all of these things had been put together in one real-time strategy game. The cycle of gathering and expansion that sat at its heart became the blueprint for almost every future RTS.

Dune II did not set off an avalanche of imitators, but in 1994 Blizzard released its first RTS, Warcraft: Orcs & Humans. As Silicon & Synapse (and briefly Chaos Studios), the developer was known for SNES games like The Lost Vikings and Rock n' Roll Racing, but noticing a conspicuous dearth of RTS follow-ups to Dune II, it decided to fill in the gap. Warcraft took the base-building, resource-gathering and real-time scraps from Dune II, but set it amid a war between orcs and humans in the fantasy land of Azeroth.

The Warcraft universe can't be contained to a single medium these days, and the story of its warring factions and demonic invasions is covered in books, comics, a movie and, of course, the world's most popular MMO. Back in 1994, Blizzard was winging it. The story of Warcraft was conjured up at the last minute, but even then there was a hint of the universe's trademark tongue-in-cheek charm and occasional subversiveness.

Alongside its campaign, Warcraft had a secret weapon: online multiplayer. Skirmishes could be fought over LAN or online between two players. Behind the orcs and knights were devious humans, sneaky and tricky. Long before World of Warcraft enchanted millions of players, Azeroth was a multiplayer-friendly place. Orcs & Humans set a precedent, not just for Blizzard but most RTS developers. Blizzard would remain the master of this arena, however, building online worlds and esports and communities spread across half a dozen constantly updated games.

The nascent RTS genre might have seemed quiet when Warcraft was released, but inside Westwood Studios designers were furiously working on their own follow-up to Dune II. The result, appearing in 1995, was Command & Conquer. You've immediately started thinking about the FMV scenes, haven't you? Even when Westwood had the budget for fancier cutscenes, the FMVs remained. It's part of Command & Conquer's DNA, but originally it was done out of financial necessity, using Westwood employees and a

ABOVE: Herzog Zwei was the first recognisable RTS.

LEFT: This is what Azeroth looked like a decade before World of Warcraft.

CLOSE COMBAT

Every soldier in Close Combat, Atomic Games' real-time wargame, was an individual. They were part of a squad, but each had their own simulated mental and physical condition that changed their effectiveness in combat. In extreme cases, they'd become incapacitated or fly off the handle. It was a focused version of a wargame, inspired by Squad Leader. While C&C and Warcraft had accessible interfaces and units that did what they were told, Close Combat was dense and full of badly-behaved soldiers. The series persists, marching to the beat of its own drum. The upcoming Close Combat: The Bloody First will be the first in the series to use 3D graphics.

single professional actor.

The war between the GDI (the good guys) and the Brotherhood of Nod (the very, very bad guys) brought with it a whole host of wonderful new toys to play with. Stealth vehicles, explosive commandos, flamethrower tanks – both factions had their exotic units, though Nod more often ventured into the weird. The diverse roster of units and a faster pace ensured that, while Command & Conquer still stuck closely to Dune II's gameplay loop, complete with a new alien resource waiting to be harvested, it wasn't retreading too much old ground.

Blizzard responded with Warcraft II: Tides of Darkness. Since it was in development when Command & Conquer appeared on the scene, it was able to compete directly with all of the fancy improvements Westwood had introduced. A few ideas were pinched, as well. Command & Conquer let you click and drag the mouse to select multiple units, so did Warcraft II. Command & Conquer had four-player multiplayer, so Warcraft II expanded it to eight. Blizzard also developed a new fog of war system which differentiated between areas you hadn't visited and area's that simply weren't in your line of sight. Unexplored parts of the map were completely covered by the fog of war, while areas that your faction had explored but were out of your line of sight were coated in a grey filter that hid units and buildings.

RIGHT: With Warcraft II, Blizzard doubled down on the multiplayer.

BOTTOM: Warcraft was really a conflict between beards and tusks.

Warcraft II also saw Blizzard start taking story more seriously. Chris Metzen, later Warcraft III's creative director, was brought on as a writer. He helped make sense of Blizzard's fantasy universe, while also working on Warcraft II's mission design. Westwood and Blizzard weren't just building competing strategy games, they were nurturing worlds.

Command & Conquer may have shown Warcraft a thing or two, but Blizzard had learned its lessons well. Warcraft II was another hit for the studio. Everyone expected Command & Conquer II to follow, but instead Westwood went back in time. Command & Conquer: Red Alert dialed up the absurdity with a time-travelling Albert Einstein and an alternate history where Hitler never rose to power and the Soviet Union was poised to swallow up Europe. It embraced its ridiculous conceit with even greater gusto than its predecessor, resulting in the Allied and Soviet factions boasting even more unusual and varied units and fortifications. There was something especially reassuring about having a wall of Tesla Coils protecting your base. They were great bug zappers.

There were expansions and ports and more Warcraft and Command & Conquer games just around the corner, but RTS games were also flourishing outside of this rivalry, as well as because of it. There was the Command & Conquer-inspired Dark Reign and its complicated line of sight rules and terrain, while Z rather boldly did away with the gathering cycle, and even mediocre games like KKnD were doing interesting things with automation.

The legacy of Dune II, even by 1997, was hard to avoid, but new games were sprouting from other evolutionary branches. Total Annihilation put its own spin on just about everything, from streaming resource generation to

1997 WAS GENERALLY A GREAT YEAR FOR MORE UNCONVENTIONAL RTS GAMES.

its powerful, multipurpose commander unit. Yes, it was still ultimately a game of acquiring resources and using them to fund a big ol' army that you'd then march into a base and unleash, but no other game made managing all this infrastructure and the army that thrived on it so fraught with tension. It necessitated planning and hindsight and the willpower to avoid going all out and constructing a gargantuan and ultimately energy-draining force of murderbots. A nifty physics system and 3D terrain was just the icing on the cake. 1997 was generally a great year for more unconventional RTS games. Bullfrog's Dungeon Keeper blended management, construction and real-time scraps into a chimera where players wore the mantle of villain, nurturing a dungeon and murdering pesky heroes. The cursor was replaced by a hand that could slap lazy imps and pick up monsters, dropping them in rooms or near fights. To recruit these monsters, you had to seduce them into your dungeon by providing them with accommodation and food, and each needed to be paid from your treasure hoard. Management and RTS games already had plenty of shared DNA, and the different layers proved to be complementary. And thank goodness it was funny! Running an actual dungeon sounds pretty horrible, but when it's filled with chickens, comic relief imps and dopey heroes, it's a lot more palatable.

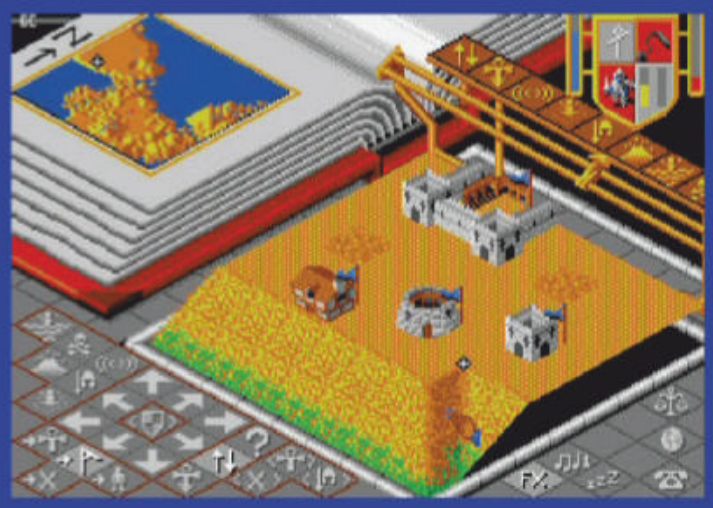
Sid Meier and Bruce Shelley had decided against making Civilization an RTS, but with Ensemble Studios' Age of Empires, Shelley took a commendable crack at it. The scale was smaller and the timeline covered the Stone Age up to the Iron Age rather than all of human history, but the fundamentals were all present. There were 12 historical civilisations to choose from, technology to research, even wonders that functioned much in the same way as Civilization's. But where Civilization was a sprawling, slow-burning game, Age of the Empires was a race.

With a brisk pace and resource gathering being a priority, the Civilization elements were ultimately overshadowed by systems inspired by the likes of Command & Conquer and Warcraft – although not when it came to combat. It was all just a bit messy, not helped by poor pathfinding and AI niggles. There were plenty of different units, complete with plenty of upgrades and historical progression, but when armies actually collided there wasn't much room for tactics. The comparisons with popular games on both sides of the strategy aisle and the grand historical setting served it well, however, spawning a series and plenty of admirers.

BELOW: C&C was Westwood's long-awaited follow-up to Dune II.

BOTTOM LEFT: Red Alert ditched the future for alt-history.

BOTTOM RIGHT: Age of Empires brought Civilization to real-time strategy.



PLAYING GOD

God simulators and management games have been a frequent source of inspiration for strategy games. Populous and SimCity, 1989, are partly responsible for an astonishingly broad array of games, from Civilization to Dune II, and there hasn't been a time where there wasn't some intermingling going on. With games such as Anno, Age of Empires, The Settlers and Dungeon Keeper the lines continued to blur. There was city-building and economic management, but there were troops and real-time battles, too. And it was a formula that worked extremely well: all of them spawned sequels and, in some cases, are still around today.

A scouting party discovers rich farmland not far from your stead. It is inhabited by strange beast folk who behave sort of like normal Orlanthi and call themselves the Slapfoot Ducks. For once, both warriors and carls agree: it would be a fine thing to drive these small, inhuman creatures from this fertile valley and claim it as your own.
Approach the ducks and offer them a peace pact.
"Each year, you must give us enough food to feed 50 of our people."
"Each year, you must give us enough food to feed 150 of our people."
Demand that the ducks cede you half their lands.
Launch a surprise attack against the puny ducks.
Annangarn
Antorling
Ernaldori
Fire Quartz
Gorund
Saga
Manual

KING OF DRAGON PASS

King of Dragon Pass, released in 1999, put you in the shoes of a clan leader and left it up to you to completely mess things up. Do you slaughter some intelligent ducks and steal their land? Will you pay a neighbouring clan for a slight made by one of your clansmen? Trade, warfare, farming, diplomacy and religion all fell under the purview of clan chief. Watching your own clan develop and the consequences of decrees play out is a singular delight, and where *King of Dragon Pass* really excelled, much like *Crusader Kings II* which arrived over a decade later, was in generating brilliant, unexpected stories.

ABOVE: StarCraft was almost just a sci-fi Warcraft before Blizzard rebuilt it.

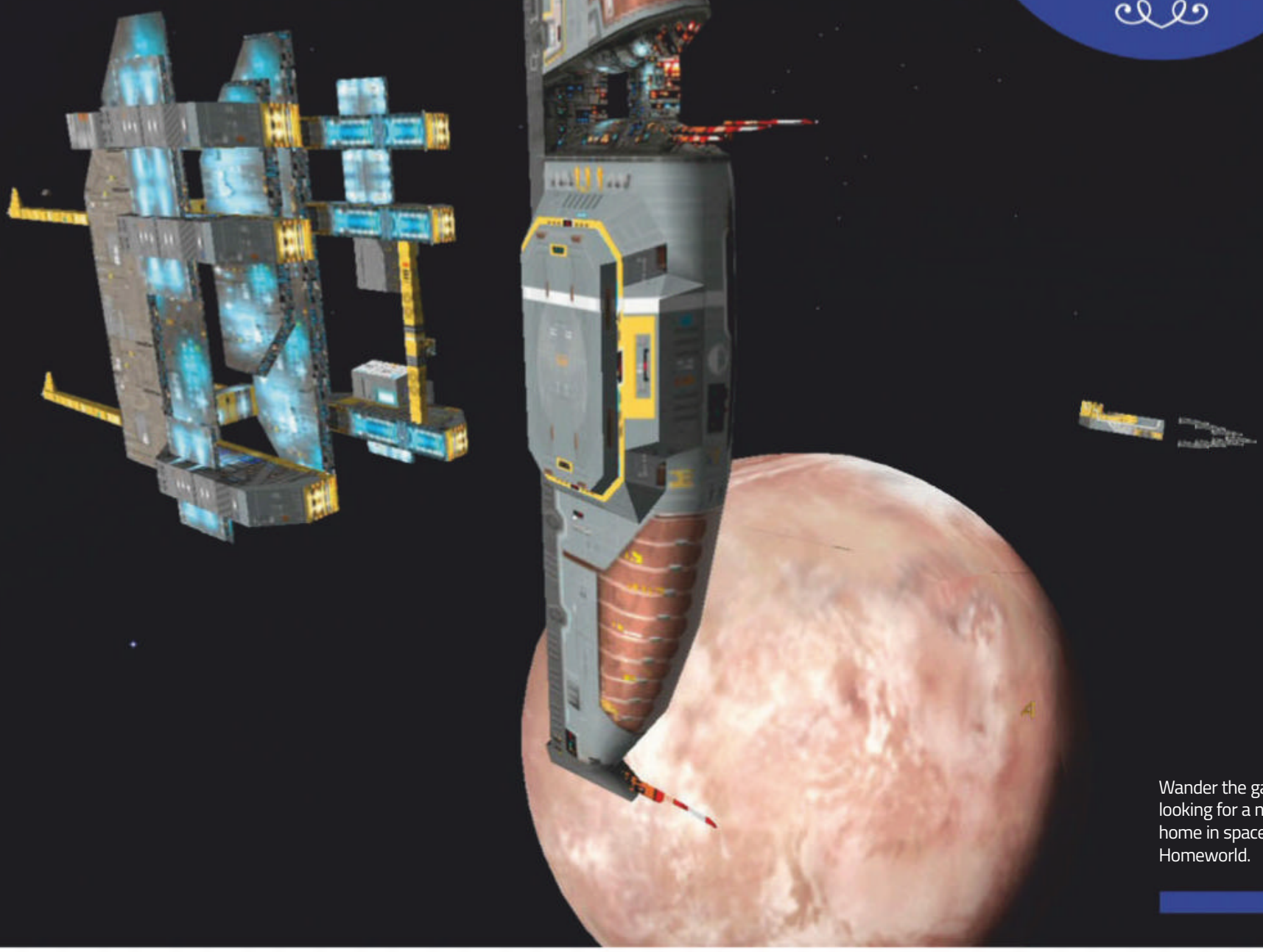
Below: StarCraft's Kerrigan remains one of strategy's most memorable villains.

Blizzard was taking its time with its next RTS. Azeroth had been swapped out for an also-pretty-familiar sci-fi setting, but it otherwise hewed too closely to Warcraft. Feedback inspired Blizzard to do some serious remodelling, a process that took two more years and eventually gave the world StarCraft in 1998. It broke new ground everywhere, with its mission design, its story and especially in the way that it gripped players, to the point where the original still has a thriving community today and remains a phenomenon in South Korea. Its greatest achievement, however, was the magic it worked with asymmetry.

StarCraft set three extremely distinct factions against one another. The Terrans, Protoss and Zerg each built, gathered and fought differently, and each possessed an entirely unique roster of units. It was a monumental task to balance, but Blizzard kept on tweaking and fiddling even after launch, something the company continues with its games today, trying to get it just right. This asymmetry and fine-tuned balance spawned a competitive scene that persists even now.

People had been waiting for a sequel to the original Command & Conquer since 1995, but it was taking longer than Westwood, which had been acquired by Electronic Arts, anticipated. There were delays, content was cut and it wouldn't be until 1999 that Command & Conquer: Tiberian Sun reignited the conflict between GDI and Nod. It was a striking but familiar RTS, full of playful sci-fi units and a lighting system that made it look drop-dead gorgeous. The expansion, Firestorm, was Westwood's final RTS in the Tiberium series. One more Red Alert followed, then a remake

DON'T MISS PART II OF THE HISTORY OF STRATEGY GAMES **NEXT ISSUE**



Wander the galaxy looking for a new home in space RTS Homeworld.

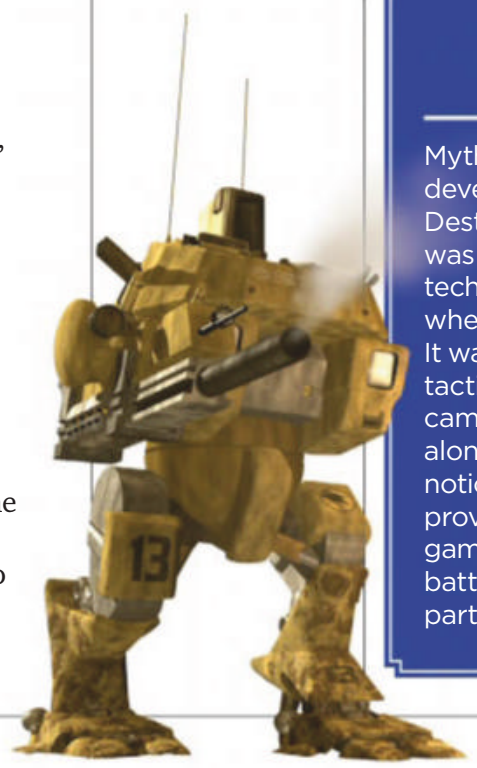
WESTWOOD WAS A VICTIM OF THE GRIM '00S, AND NOT THE ONLY ONE...

of Dune II. The studio's final games were a misguided shooter, Command & Conquer: Renegade, and an MMO, Earth & Beyond.

Westwood was a victim of the grim '00s, and not the only one, but '99 still had some tricks left, not least of which was Homeworld. Relic's hauntingly beautiful space RTS was the first truly-3D strategy game. You weren't stuck staring at a map from one perspective; you could hurtle through space, following your fighters as they weaved their way between enemies, or step back and just soak up the galaxy. The way the ships moved and fought turned battles into arresting ballet performances, accompanied by an exceptional soundtrack. It was a game of vast scale elevated by tiny details. Mining, building ships and fighting were still the top three priorities, but the space arena made even the familiar seem novel.

Throughout the late '90s, designers had been scrambling to unseat the titans, promising that the next great Civilization or Age of Empires or Command & Conquer was just around the corner. That tactic had diminishing returns; the wars had already been won. The awkward march to 3D had commenced, and not able to rely on the old formulas, designers had started to look to other genres for inspiration.

A tumultuous time was looming. PC



MYTH

Myth: The Fallen Lords, developed by Halo and Destiny studio Bungie, was an astounding technical achievement when it launched in 1997. It was a 3D real-time tactics game with a 3D camera to match. That alone made it worth notice, but Myth also proved just how game-changing 3D battlefields could be, particularly if they were supported by physics. If an archer missed an enemy, for instance, that arrow still had to go somewhere. Weather, range and elevation all exerted their influence over the tactical scraps, which made it more than a bit tricky, but also unlike any other strategy game around. It's a great shame that Bungie moved onto other pastures.

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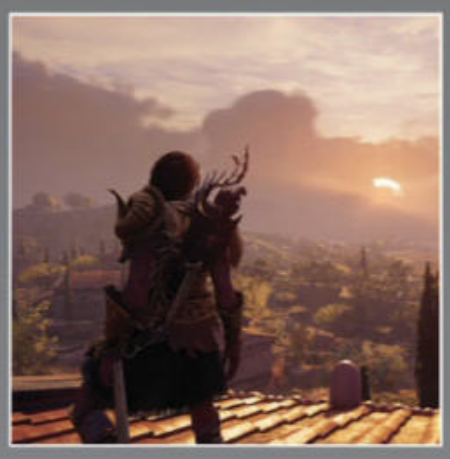
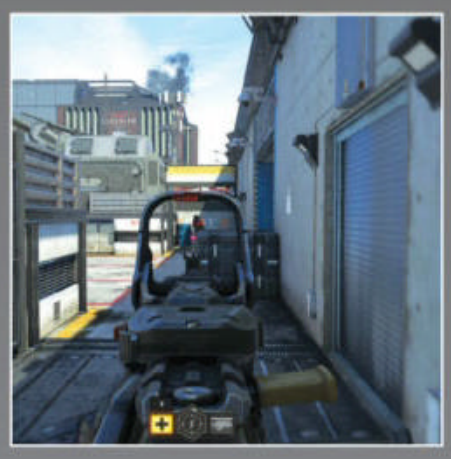
YOUR GUIDE TO PC GAMES





Nothing lasts forever...

... but then again what does?

Yeah, remember last issue, and my seeming resurgent passion for World of Warcraft? Well, it waxed strong for a while, but has - as it always does - well and truly waned. And frankly, at this time of year, there's just too many damn games!

I mean, quite aside from the cowboy depression simulator on that whole other platform - which let me tell you will be great if and when it comes to PC! - there's the sprawling world of ancient Greece to explore and stab repeatedly, not to mention the two annual releases of the competing shooters Battlefield and Call of Duty. I really wanted to like the new Blops release, but I still just can't get into it, and I am building a new PC just for Battlefield V... which is looking like a game that's going to take even more of my time. Read on to find out why!

David Hollingworth
Editor

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POWERED BY
REPUBLIC OF GAMERS

1

10

SCORING SYSTEM | PCPP scores its games on a 1 to 10 scale. The higher, the better – though 10 is by no means a "perfect" game. We're not convinced such a thing exists, so consider a 10 a masterpiece of PC gaming, despite its inevitable flaws. A 5 is a decidedly average game; one that doesn't excel in any particular area, without being an affront to our senses – the ultimate in mediocrity. Below this, you'll start to find the games our reviewers suffered an aneurysm getting through; above it, the titles truly worth your time and money. And remember: a score is only a vague indication of quality. Always read the full review for the definitive opinion!

Battlefield V

As chaotic and exhilarating as Battlefield has always been.

DEVELOPER DICE • **PUBLISHER** EA
www.ea.com

Battlefield 5 opens with a solemn prologue in which you play as a series of doomed soldiers dying in increasingly horrible ways. Its intent, I presume, is to evoke the futility and horror of war. But it feels out of place in a game where you can wear a Union Jack gas mask, jump out of a plane in mid-air, land on your feet, then whack a Nazi over the head with a cricket bat.

Developer DICE can't seem to decide if war is hell, or just cool as hell, which creates some wild tonal dissonance. The notoriously chaotic Battlefield is by no means an accurate approximation of a real, gruelling war, which makes a soldier's agonised screams of "I wanna go home!" as he bleeds out just seem a bit tasteless. The Swedish studio needs to own the fact that its game is really just a fun, silly, knockabout shooter, because that what it does best.

In the thick of a firefight, with planes screaming overhead, tanks trundling by, and sniper scopes glinting in the distance, Battlefield 5 can be exhilarating. And the dense, detailed maps only add to the turmoil, particularly the post-apocalyptic Devastation, which is set among the shattered ruins of a bombed-out Rotterdam. With 64 players fighting together, few multiplayer games are this frenzied. And a welcome return to World War II brings back fond memories of the first wave of Battlefield games.

This chaos also results in some exciting, emergent moments that could almost be scripted set pieces, such as the Spitfire I saw flying too low and buzzing a church's bell tower, carving a hole in the side with its wing and leaving a trail of dust and rubble. But this can also work against it, and I've lost count of the visual bugs I've encountered: usually involving corpses getting stuck in scenery or flailing around like they're being reanimated by a necromancer.

Ultimately, there are no bad maps in Battlefield 5: just a few mediocre ones

This is a series famous for its destruction, but now you can build things too. Whip out your hammer and on certain parts of the map—usually around control points—you'll see the shimmering outline of sandbags, barbed wire, and other buildable fortifications. Any class can build them and you don't have to harvest resources or anything like that, but the process is slow and leaves you open to attack while you wait for a meter to slowly tick up.

Speaking of maps, it's a mixed bag, but some are among Battlefield's best. Twisted Steel is the clear highlight: a vast, swampy map set in France and dominated by an enormous bridge, part of which has dramatically collapsed. Below the structure is a marshy forest for skirmishing in, but it's on the bridge itself where the most exciting firefights inevitably take place around the two capture points placed strategically at either end of it.

Arras is another great map: an expanse of French countryside covered in vivid yellow rapeseed fields. The open areas are perfect for vehicle skirmishes, while infantry can battle for control of the farmhouses and villages scattered around the area. Fjell 652, set in the mountains of Norway, is a lot of fun too, particularly the control point situated among a scattering of cabins. Its exposed mountainside location makes for some hectic firefights, with opportunities for distant snipers and aircraft to make your life hell.

Less successful is Devastation, the Rotterdam-based map I mentioned earlier. It's visually impressive and incredibly atmospheric, but the cluttered geometry and lack of clear, identifiable paths to each control point make it feel messy and poorly paced. Hamada, a large desert map, is great for vehicle combat, but the distances between control points and the generally increased time-to-kill in Battlefield 5 mean you spend a lot of time running back to where you died and, if you're unlucky, being sniped by someone on the way.

Squads are more important than ever in Battlefield 5. Not only can you spawn on an ally if they aren't engaged in combat, but now non-medic characters can perform a 'buddy revive' on a fallen comrade. This is a lot slower than when a medic does it, but still fairly invaluable in the final stages of a match. It also encourages squads to stay close together, as tempting as it might be to run off and test out your new sniper rifle. You can still leave your assigned squad and play as a lone wolf, but the game actively discourages it.

Building on Battlefield 1's Operations mode, Grand Operations are vast, themed battles that take place over three days, loosely connected with a story that changes depending

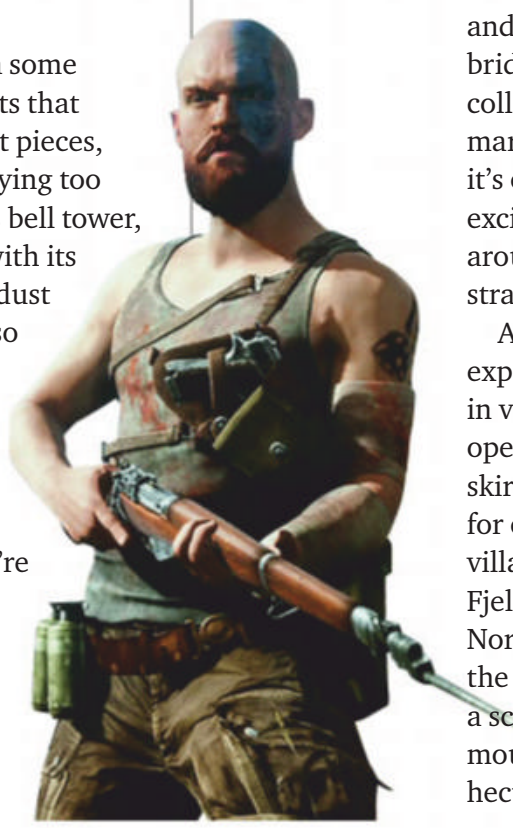
More neon than I remember in WW2, but okay.

WHY SHOULD I CARE?

+ You want a shooter with some kind of story mode

+ You still hate CoD

+ Gameplay is more important than historicity.

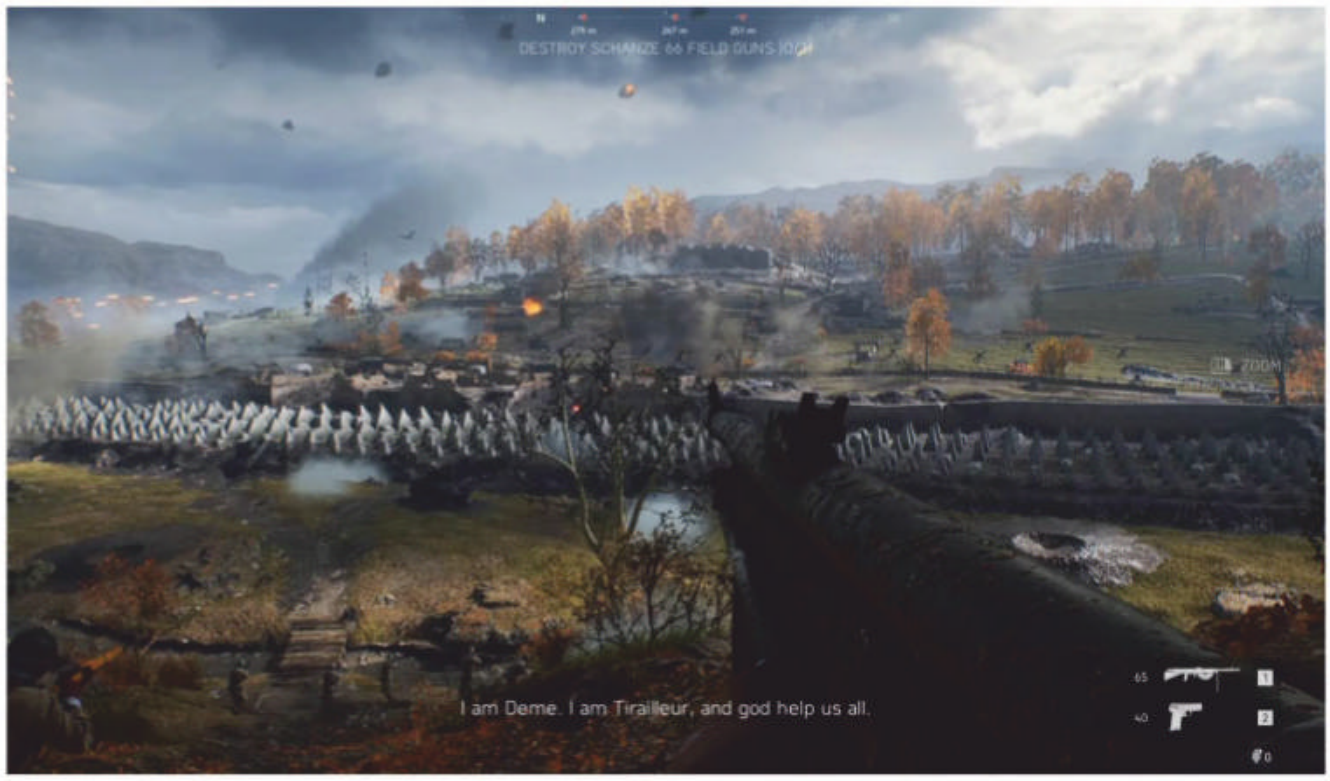


on the performance of each team. While Battlefield is often a good game to dip in and out of, you'll need to set a decent chunk of time aside—in some matches, as long as an hour—for these sprawling epics. Each day is heavily objective-based, with teams attacking or defending key structures including giant artillery guns that players can operate.

I'm not sure about Final Stand, though. This tie-breaker round is triggered if both teams are evenly matched and there's no clear winner. Essentially playing out like the tense final minutes of a game of Fortnite or PUBG, respawns are disabled and surviving players are gradually pushed together by a shrinking play space. The last team standing wins the Grand Operation, which kinda negates your team's performance in the previous rounds.

While Call of Duty has abandoned singleplayer, it's good to see DICE still making the effort. War Stories is a series of solo missions with lavish production values and melodramatic cutscenes, set in lesser-known corners of World War II. The missions have an open structure, with multiple objectives that can be completed in any order, but there are still a lot of moments where it's clear you're playing something quite heavily scripted.

Nordlys, set during the German occupation of Norway, is the best, following a resistance fighter as she fights behind enemy lines. The environment design is stunning (that snow, so powdery) and skiing between locations is fun. Overall, War Stories is more interesting than CoD's shallow, linear meat grinder campaigns and boasts some genuine spectacle, but it's not worth buying the game for. Online is still the reason Battlefield exists, but these missions are well made and a worthwhile addition to the game.



> While Call of Duty has abandoned singleplayer, it's good to see DICE still making the effort.

Here's the thing, though: Battlefield 5 is gonna change, a lot. DICE is already addressing community complaints such as bombers being overpowered, as well as planning new modes including its inevitable take on the battle royale genre, Firestorm. There's also a new tank-focused singleplayer mission, The Last Tiger, on the way in December. In a year this could be a much better, deeper, richer experience, but for now it's just a very good Battlefield game with a few great maps and plenty of those moments of beautiful chaos that have come to define the series.

ANDY KELLY PC

VERDICT:

Not the most outstanding entry in the franchise, but one that is rich in action nonetheless.

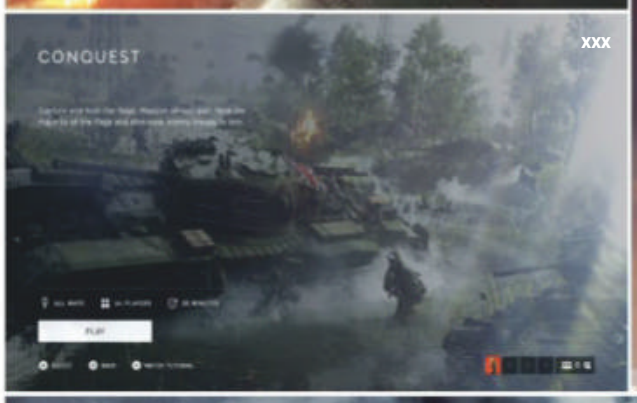
8

BFV AND NVIDIA'S NEW RAYTRACING TECH

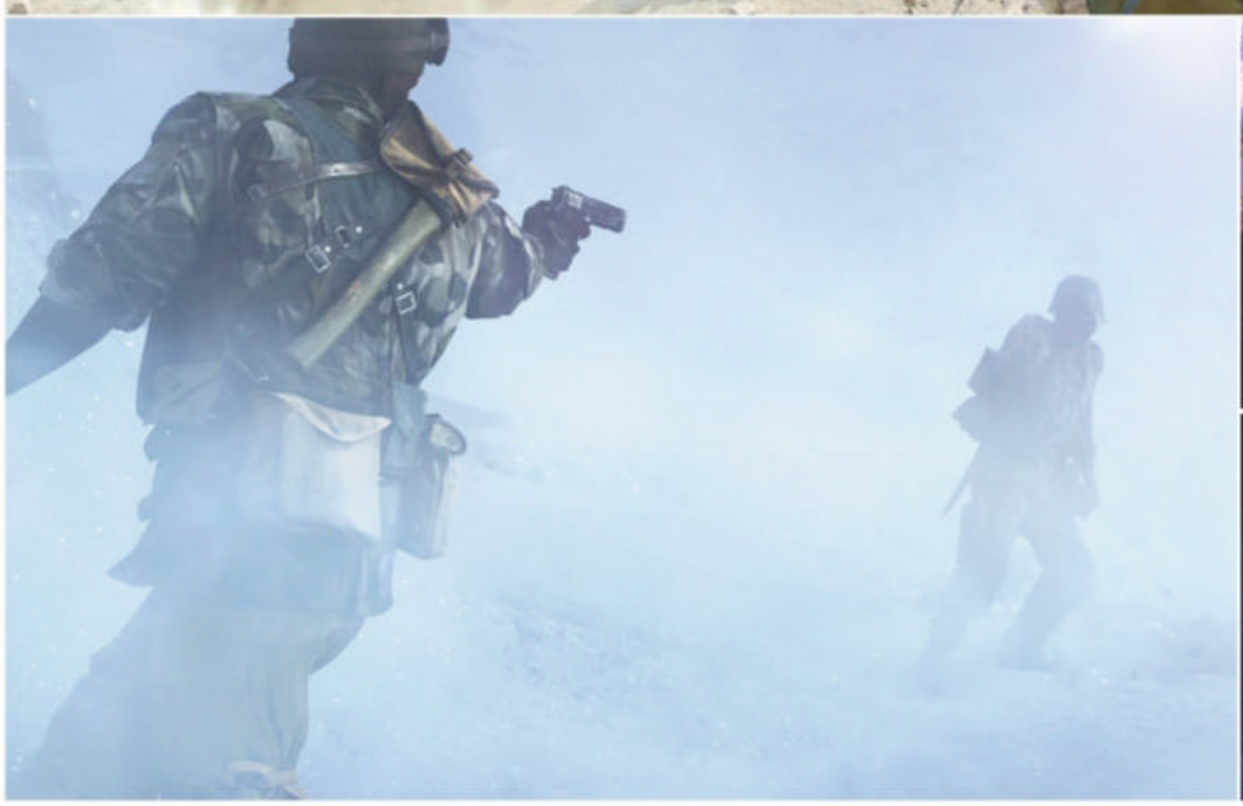
I've spent a good chunk of yesterday and today trying to get a handle on what ray tracing does—and more importantly doesn't do—in Battlefield 5. As the first publicly available test case, there's a lot riding on game, and let's be frank: it's not the end-all, be-all of graphics and gaming excellence right now. In fact, the only thing ray tracing is used for in Battlefield 5 is improved reflections. They look good, better than the non-DXR mode certainly, and it's pretty cool to see mirrors, windows, and vehicle surfaces more accurately reflecting their surroundings. But this particular implementation isn't going to revolutionise the gaming industry.

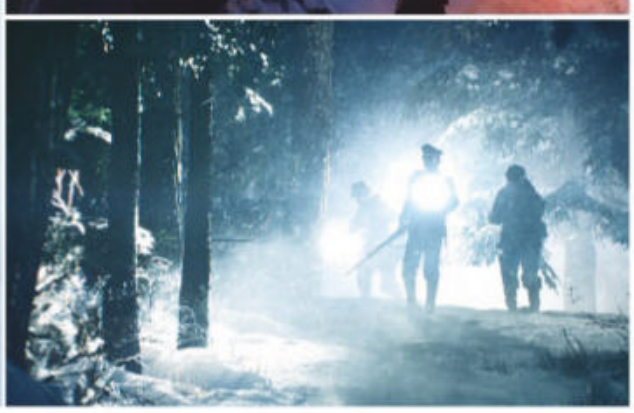
I'll start with the multiplayer, just to get that out of the way. In its present state, with Dice already pointing out some bugs and known issues and talking about future patches, it's far too early to make a final evaluation. But things are seriously messy. On an RTX 2070 at 1080p ultra, sometimes performance was okay, hovering around 40-50 fps, but I got a lot of framerate drops, often hitching for up to half a second or more, and 97 percentile minimums were 7 fps! That's not even remotely playable if you're trying to be competitive, though this is a bug to fix rather than something that's inherently part of the ray tracing hardware. Sometimes I'd go 10-15 seconds without any major stalls, other times it would happen every second or two.

Let's move over to the singleplayer testing, which is where I see ray tracing being far more useful in the near term anyway. In multiplayer, especially a fast-paced shooter like Battlefield 5, I don't think many competitive gamers will sacrifice a lot of performance for improved visuals. I might, but then I'm not a competitive multiplayer gamer. Singleplayer modes are a different matter, because the pace tends to be slower and a steady 60 fps or more is sufficient. I play most games at maximum quality, even 4k, simply because I have the hardware to do so and I want the games to look their best. Battlefield 5's War Stories mode has some impressive graphics and often looks beautiful, and adding ray tracing for reflections improves the overall look.



Dunkirk theme intensifies





Assassin's Creed Odyssey

an RPG of enormous scale and substance.

DEVELOPER UBISOFT QUEBEC • **PUBLISHER** UBISOFT
www.bit.ly/acodysseypc

Of all the Assassin's Creed games, Odyssey is the most aptly named. It's a roleplaying game of mythic proportions, a world so vast and intricately detailed I feel lost in it all. This isn't just Ubisoft's usual style of open world draped over the Aegean Sea, either. Odyssey's various activities weave into a satisfying web of interlocking systems. Many of Odyssey's zones could host a smaller RPG on their own, but together they form an incomparably large world full of things to do.

Odyssey sheds so much of what Assassin's Creed is known for to fully embrace the concepts of a roleplaying game – and it's all the better for it.

Unlike previous Assassin's Creed games, dialogue options now let me influence quests – sometimes with horrific consequences. I refused to intervene when a priest wanted to put a plagued family to death, incited more than one rebellion and even spared a shamed general from what should have been a very satisfying dish of stone-cold revenge.

The wonderful sidequests are spread out over a world that is almost incomprehensibly large for a singleplayer RPG. Normally, size doesn't matter, but the scale of Odyssey's ancient Greece is to its benefit, especially because each area feels so detailed. It's a vast world that I want to explore, and each zone has a subtle aesthetic that makes it unique, from the arid badlands of Crete to the verdant plains of Arkadia. This isn't just Ubisoft's biggest game ever, it's also its most beautiful.

The new 'Exploration' mode makes that world a lot more immersive. Enabled by default, this turns off most of the quest markers and instead provides me with vague directions to objectives, like saying it's located north of the agora in Athens, leaving me to suss out the exact location on my own. Sometimes that's as simple as using my eagle, Ikaros, to scout out the location from above, but other times it means speaking with characters or taking on extra quests to get more information.

Don't worry. Stealth is still a big part of Odyssey.

> "This isn't just Ubisoft's biggest game ever, it's also its most beautiful."

WHY SHOULD I CARE?

+ You have a thing for Greek classics
+ You have a thing for Greek abs
+ This is Sparta?

If there's one casualty of Odyssey's world, though, it's the main story. No matter which of two siblings you pick, Kassandra or Alexios, there's a lot of heart in their journey to reunite their family. True to Assassin's Creed, Odyssey tries to tell a story that sees the protagonist (in my case Kassandra) rub elbows with all of the big names in Greece, but the end result is a story that has charm but feels disjointed and confusing.

This frantic pacing doesn't leave much time to really know or appreciate these characters, and the reasons I was pulled from one area to the next sometimes felt paper thin. It's still an enjoyable tale, but The Witcher 3 this is not. That's pretty standard for Assassin's Creed, but having agency in the story has done wonders for making me more attached to Kassandra's journey. Even if certain revelations left me confused or rolling my eyes, I felt invested in what was happening.

I don't really mind that the story doesn't always work because Odyssey is an RPG that thrives thanks to its diverse and excellent activities. Black Flag's ship combat makes a return as a central feature, though it's slightly less of a grind. I love the feeling of boarding the Adrestia and sailing the open waters, cleaving pirate triremes in half or pulling alongside to battle their crews in melee skirmishes.

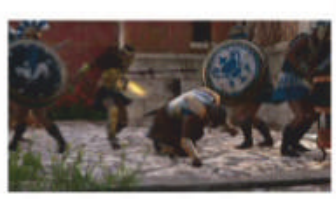
Odyssey retains the same MMO-style levelling system of Origins, meaning enemies who outrank me by even a

ANATOMY OF WAR

QUICK WAYS TO WEAKEN NATIONS AND, EVENTUALLY, SCORE GOOD LOOT

MURDER ALL THE SOLDIERS YOU SEE
Killing soldiers will chip away at a nation's strength, so always go for that killing blow.

BURN WAR SUPPLIES
You can find these in guarded forts. Just be sure to loot them for valuable resources before setting them on fire.



ASSASSINATE THE NATION LEADER
Usually found in their guarded house. Do this when a nation is weakened to thin their entourage.

LET TIME TAKE ITS COURSE
Nation power declines in most zones automatically, so always check to see if new battles are available.

Forget mythology, bears are scary enough monsters.

few levels will be practically invincible no matter how well I fight. That's still annoying – especially when it leaves me unable to progress in the main story – but in the case of mercenaries I like how it establishes a food chain. When I saw Exekias the Legend, a level 50 merc, roaming around Delphi with his pet bear, I felt like I bumped into a celebrity. The merc pecking order is just one of half a dozen secondary progression systems in Odyssey. It might sound like feature bloat, as if Ubisoft's open world games needed even more things to do, but each of these systems overlaps and influences the others in a way that makes Odyssey a dynamic world.

Across most of the zones, for example, Spartan and Athenian armies clash for control of territory. When one faction controls a zone, I can destabilise its grip on the region by killing soldiers, or burning and stealing supplies found in their heavily-guarded camps. When a faction's control of a region is all but lost, a Conquest Battle opens up and I can enlist to fight on either side in exchange for powerful gear.

It's in these moments that Odyssey's combat really shines. It's functionally the same system from Origins, which means it can sometimes feel a little mushy and unresponsive, but new abilities that slot into an action bar give me so many cool tools to use in combat that it doesn't get on my nerves nearly as much.

Normal attacks build generous amounts of adrenaline, which can then be spent unleashing any one of these four abilities, like the Spartan Kick. It's an even cooler Fus-Ro-Dah from Skyrim as Kassandra launches a foe backwards with a detonative punt. Even if the combat system could be more responsive, I like that Odyssey embraces combat over stealth more than any other Assassin's Creed, because these new abilities make me feel like a god of war.

Fans of older Assassin's Creed games can rest easy knowing that stealth is still big part of Odyssey. Sneaking into heavily guarded forts and estates is how I've spent a good half of my time, but the system remains largely unchanged from previous games.

My only problem with stealth is that it too often reveals how dumb and inconsistent Odyssey's AI is. More than once I've had guards get stuck on objects or have had to sit back and watch as they run around in a panic seemingly caused by nothing. And nothing ruins the immersion of a leisurely horse ride through Athens like civilians desperately diving out of the way like they just dodged an incoming train. So while Odyssey is easily the best Assassin's Creed I have ever played, and a damn good RPG to boot, there are still some parts that could have been improved.

Odyssey is a lot more than just another Assassin's Creed; it's an RPG of unparalleled scale supplemented by satisfyingly deep progression systems that each play their part in bringing ancient Greece to life. ■ *STEVEN MESSNER* PC

VERDICT:

Though the story suffers because of it, Odyssey is a massive RPG held together by a web of satisfying pursuits.

9

Frozen Synapse 2

It's always worth double-checking.

DEVELOPER MODE 7 GAMES • **PUBLISHER** IN-HOUSE
www.frozensynapse2.com

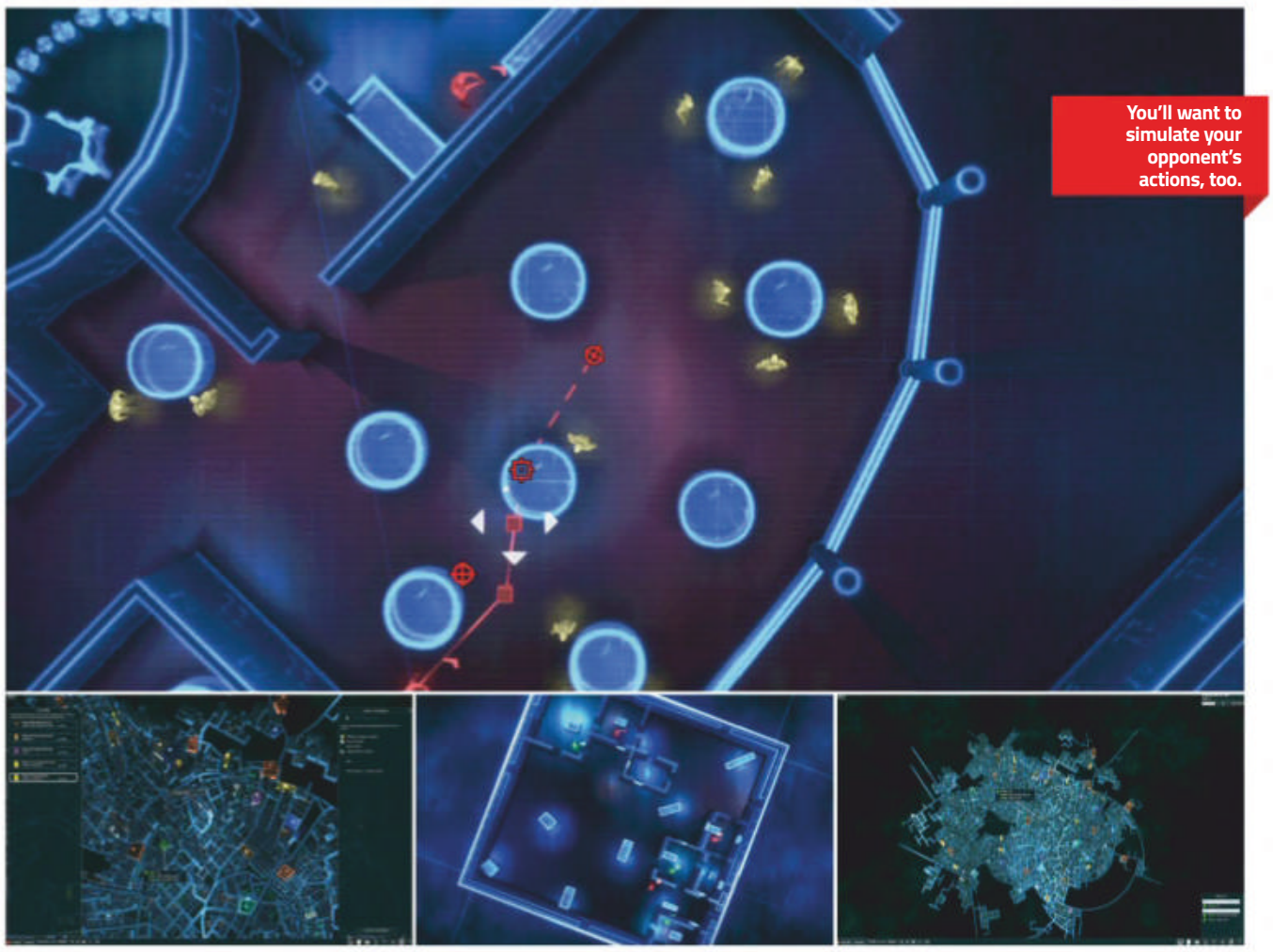
The action in Frozen Synapse 2 plays out in perfect five-second bursts, as soldiers carry out orders with precision. It's great to watch. Your team might breach a room from multiple entrances at once, or duck behind cover just as a grenade explodes on the other side. It's flawless and meant to be enjoyed, because these moments take plenty of planning on your part.

Let's say you find yourself controlling a soldier armed with an assault rifle facing an enemy unit holding a shotgun. Between these units lies some basic cover. Should you tell your soldier to stand their ground and take a shot, or move to the cover and open fire? Which is safer? What happens in either case? Unlike most turn-based tactical games, in Frozen Synapse 2, you don't need to guess.

Instead, you run a test scenario for each decision. This means not only simulating your soldier's actions for the next five seconds, but also those of your opponent. You can confirm what will happen if both units hold their ground, or what happens if one, or both, of them run for cover instead.

After collecting this information you'll want to see if you can give your soldier an order that has them win regardless of what your enemy does. The question changes from, 'What should I do next?' to, 'What do I think the enemy is going to do next, and how do I counter it?'

In singleplayer, this often comes down to logic. The AI is challenging, but I rarely found it surprising. Its response to player action is usually an aggressive one, although it tends to avoid most unnecessary risks. This makes it reasonably predictable, although in most cases that's countered by the fact that it'll bring a lot more firepower to the battlefield.



You'll want to simulate your opponent's actions, too.

> "Do you want to maintain a good relationship with the more powerful faction? You don't have to."

WHY SHOULD I CARE?

+ You're always thinking two moves ahead

+ You think top-down is the best view of all

+ Your favourite colour is NEON.

However, playing against other human beings can be anything but predictable. This is where the game truly grabbed me. I'm reminded of why I don't enjoy playing chess against AI, but love playing in person: the best move is often the one that surprises your opponent the most.

The campaign features a procedurally generated city for the player to scheme and fight over alongside several other factions. Each of these groups has a different agenda, which sees them clashing at times, although all of them are equally interested in the 'relics' you've been collecting as you defend the city from an invading force.

There's so much room for experimentation here. Do you want to maintain a good relationship with the more powerful faction? You don't have to. From the very start, you can choose to attack any building in the city, no matter who owns it.

Frozen Synapse 2 is not a game of chance. Luck isn't meant to be much of a factor. It's about running the same simulations your opponent is running and then trying to get inside their head and figure out what they'll do with that information. Just like in chess, it's about seeing a good move and then looking for a better one. ■

CHRIS BRATT PC

SQUAD GOALS

ASSAULT RIFLE
The single best all-rounder you can have in your squad. Useful at all ranges.

SHOTGUN
A shotgun's spread is ideal for breaching buildings with small rooms and corridors.

RIOT SHIELD
Is there not enough cover on the map? No problem, just make your own.

ROCKET LAUNCHER
Too much cover on the map? No problem, blow it up.

KNIFE
You shouldn't bring a knife to a gunfight, but these units are deadly and cheap.

VERDICT:

Frozen Synapse 2 has plenty to offer with its campaign, but it's at its best when playing against other humans.

8

Megaquarium

Offers truly delightful aquarium management.

DEVELOPER TWICE CIRCLED • **PUBLISHER** IN-HOUSE
www.megaquariumgame.com

I'm restarting my campaign level in Megaquarium. I forgot to hire staff to feed the fish and oh god there were so many fishy autopsies. Amongst those floating belly-up are three schooling bannerfish. You need at least six in a tank to satisfy their shoaling requirement. Ordinarily, I'd buy three more and pretend none of this ever happened, but this particular level restricts the availability of some fish. I can only pick up new bannerfish if the right seller pops up.

If that doesn't happen soon the rest will sicken and die. I restart and hire a team of experts to feed, clean and fix. This time the problem is my striped boxfish. Or rather, the big fish who love to snack on striped boxfish. The first is gobbled up by a green moray eel. I forgive the eel but move the boxfish to a tank of humpback snappers. All is well until the snappers grow big enough to eat their tankmates.

Megaquarium is a game of wonderful tinkering. Hours passed as I expanded my floorplan, placed tanks, fiddled with pumps and filters, and tried to keep fish and visitors happy.

The campaign missions teach you how to build, and also how to use the various game currencies. There's regular cash which you earn from entrance fees, sales of food and drink, and gift shop bits. But you also accrue Ecology Points and Science Points as the guests enjoy exhibits. These are used to research new species and new tech, respectively. Meanwhile, Prestige acts as an overall measure of how attractive your aquarium is. Gather enough and you'll rank up, unlocking more bits for your aquarium.

Each creature has specific needs so there's a logic puzzle element to tank construction – bullies harass wimpy fish, some fish shoal, others want to swim solo, and scavengers need another creature in the tank to be fed in order to indirectly sneak their nutrition.

A few systems are hard to pick up – I went ages before noticing how to connect multiple tanks to a single pump. That's important because pumps let you place unsightly tank equipment out of sight of guests. Making one pump serve multiple tanks means equipment takes up less space and needs less maintenance.

The different difficulty tiers seem to revolve around money – on harder settings staff cost more to hire and fish and tech are pricier. At that point knowing exactly how water quality works would be more important, but on normal mode there was more than enough wiggle room to experiment.

So some of its systems are a little obtuse but that never got in the way of me properly losing myself in Megaquarium's little world. Building is easy to get to grips with, letting you shape your venue, but ultimately not distracting from the main draw: curating and caring for the fish. ■

PHILIPPA WARR PC

In first person you can get a fish-eye view of the world.

> "Each creature has specific needs so there's a logic puzzle element to tank construction..."

WHY SHOULD I CARE?

+ No one will let you have a real live tank

+ You love fish and chips

+ No one will let you back into Sydney Aquarium after THAT incident...

VERDICT:

A charming management game where fish are friends, not food. Until they eat each other or you forget to feed them.

9

Pathfinder: Kingmaker

An old-school RPG inspired by the classics of the genre.

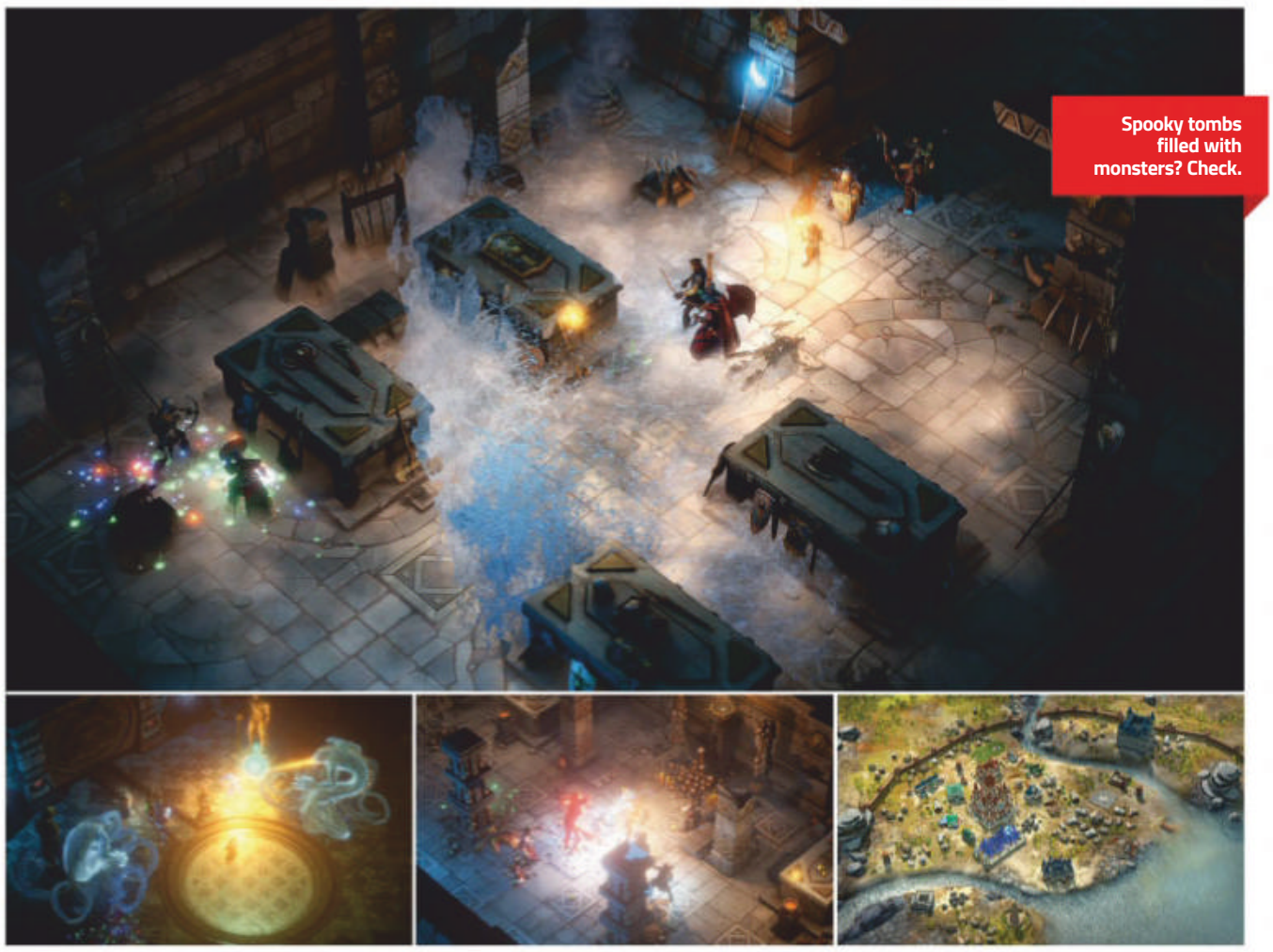
DEVELOPER OWLCAT GAMES • **PUBLISHER** DEEP SILVER
www.owlcatgames.com

If you're familiar with Infinity Engine RPGs, playing Kingmaker is like slipping into an old pair of boots. The muscle memory I developed playing Baldur's Gate and Icewind Dale came straight back to me: backspace to select the party, space to pause combat, R to rest, tab to highlight objects in a room. The game wears its influences on its sleeve, and even has lauded scribe Chris Avellone on writing duty – but, hey, what Kickstarter-funded RPG doesn't these days?

Kingmaker is based on Pathfinder, a tabletop RPG released in 2009 as a response to the divisive D&D 4th Edition ruleset. This means the combat, like Baldur's Gate and its ilk, is based around rolls of virtual dice. On lower difficulties you can almost play it like an RTS, clicking your way to victory, rarely pausing. But nudge the difficulty setting a notch higher and strategic use of abilities and spells is essential. This is a brutal game in places, to the point of feeling unbalanced, which developer Owlcat is addressing with a barrage of hotfixes and patches.

And yes, there are companions too, each with their own personality, motivation and alignment. Amiri is a chaotic neutral barbarian. Linzi is a chaotic good bard who chronicles your adventures. Jaethal is a neutral evil undead elf with a morbid attitude towards mortality. And if your actions conflict with any of the 11 available companions' personal beliefs or alignments, they'll confront you or leave the party altogether.

When you create a character you choose their alignment, but it can change over time depending on the choices you make. There's a lot of nuance to the conversation system, and as you might expect, this is a game where you spend a lot of time talking to people – from chats with townsfolk to life-or-death parleys. In the prologue you're accused of several misdeeds and have to defend your actions, which is a nicely constructed demonstration of how people will respond to you based on their alignment.



Spooky tombs filled with monsters? Check.

> "As for managing your barony, you can be as hands-on as you like."

As for managing your barony, you can be as hands-on as you like. It's possible to automate this part of the game, but do it manually and there's a lot to get involved in. You can give companions jobs, and their alignment will dictate how they approach the role. You can draft trade agreements with other towns, or even pillage them. You can construct buildings, all of which grant income. It doesn't have the depth of a management sim, but it does set Kingmaker apart from other games in the genre.

There's a lot to like in Kingmaker, but it hasn't grabbed me as firmly as the classics, or recent examples of the genre's resurgence such as Divinity: Original Sin or Pillars of Eternity. The story, visual design and setting offer little I haven't seen before. It just didn't beguile me as much as I'd hoped. It used to be hard to find a good CRPG on PC, but now we're spoiled for choice and Kingmaker doesn't quite stack up with the best, even if it does get a lot right and throws a few neat new ideas into the mix. ■

ANDY KELLY PC

WHY SHOULD I CARE?

+ You just want to rule the world

+ You dig Pathfinder on tabletop

+ You're really jonesing for another DnD RPG.

SHEET HOT

HEDWIRG THE RESOLUTE
A human fighter who has a strong moral code. He'll never side with the bad guys to make money.

MELAKU THE DELIVERER
A paladin, Melaku wields a two-handed sword and uses his divine powers to smite the wicked.

VYLEEN THE DARING
A ranger who grew up in the woodlands. Deadly accurate with a bow, she prefers not to fight, but will fiercely defend her friends.

GIMAR THE BRIGHT
A mage with dragon's blood. An expert in fire and evocation magic, he prefers to fight from a safe distance.

VERDICT:

A good RPG with some unique ideas, but one that ultimately plays it too safe to stand out from the crowd.

7

Wandersong

Dance like nobody's watching.

DEVELOPER GREG LOBANOV • **PUBLISHER** IN-HOUSE
www.wanderso.ng

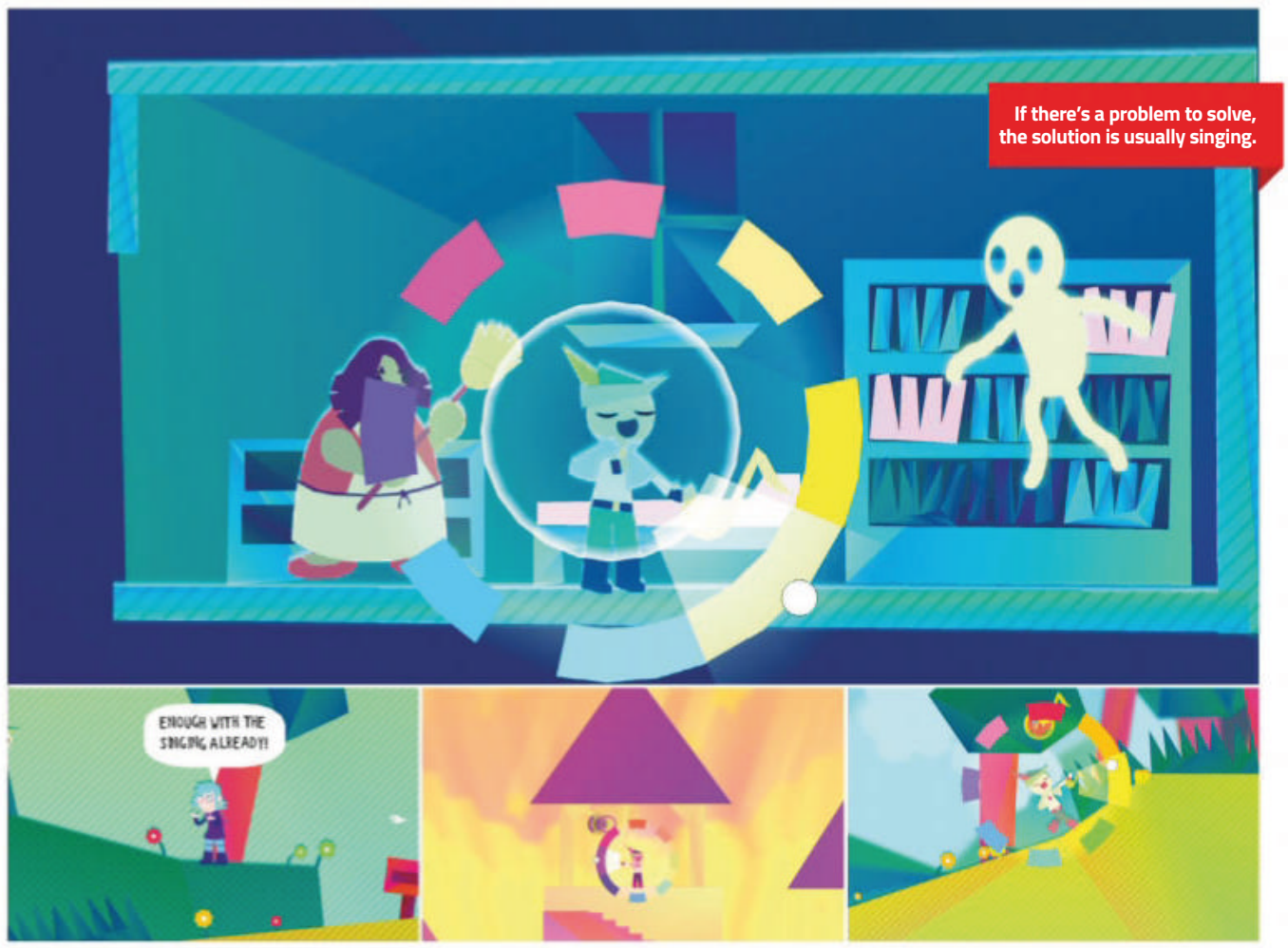
If you press 'alt' at any time while playing Wandersong, you'll do a little dance. As you travel across the world, you'll repeatedly run into a character who teaches you new dances – new ways to rhythmically gyrate. There is no reason for this. At no point are you required to dance. But you will – and I did – because in Wandersong you're encouraged to just… go for it. To express yourself and have fun interacting with the world and with your character.

Wandersong is charming from the off. I was walking to-and-from the main village of the first act, and, without really needing to – without there being a puzzle to solve or character to impress – I started singing. Wandersong is a game about singing. Move the mouse (or the control pad's right analogue stick) in one of eight directions and you'll sing a different note. Throughout the game, you will use this central interaction in many enjoyable and surprising ways.

You'll also use it because it's there. Because Wandersong is delightful and let's you embody a cheerful doofus who can't help but sing.

That doofus is a bard who learns that the world is going to end soon, when the goddess Eya sings the song that will create a new universe. It's the natural order of things, and while it sucks that the bard and everyone he knows will stop existing, there's really nothing he can do – he's not a hero, after all. Still, Eya's messenger takes a liking to the bard, and suggests that – and this is a long shot – he could try to learn the Earthsong from the world's Overseers. It probably won't work.

As you move through the story, Wandersong reveals its deeper layers. It starts to subvert your expectations of this non-heroic bard's heroic adventure.



If there's a problem to solve, the solution is usually singing.

> That doofus is a bard who learns that the world is going to end soon...

WHY SHOULD I CARE?

+ You just want to SING!
+ You're looking for a game with FEELS
+ You feel every game needs dancing.

Your grand quest is filled in by the smaller, more personal stories that are the game's true heart. It becomes a game about loss, acceptance, regret, friendship and the intimacy of colliding with another person's life.

Much of Wandersong is spent traversing 2D environments, speaking to characters and delivering setpiece performances. Your objective in each act is to learn the song that will transport you to the spirit world, where you do some light puzzle platforming on the way to meet that region's Overseer and collect their fragment of the Earthsong.

The spirit world's platforming challenges – singing to make flowers extend up to higher areas, or to shape pulsating platforms, or to redirect the wind – were my least favourite part of the game.

This might be the most heartfelt platformer I have played since Night in the Woods. And while I don't think its message is as specific or revelatory, it's still a worthwhile and clever exploration, and a reminder that there's joy in the act of play. ■

PHIL SAVAGE PC

RHYTHM AND BLUES

A GUIDE TO DANCING

MODIFIED LEG SHUFFLE
Mood: Just a simple, low-energy waggle. For the slow jams and more serious conversations.

DAB-ASSISTED STOMP
Mood: You have got some energy to burn off, but would rather not show your face.

BRUSHING THE AIR
Mood: You're so content you can't help but pretend to slowly stroke a humongous dog.

360 NO-LOPE
Mood: For those important moments when you need to travel with grace, poise and no small amount of dizziness.

VERDICT:
I listened to the soundtrack while writing this review, and I have been happily jiggling my leg throughout.

9

Call of Duty: Black Ops 4

Nails established trends but carves out none for itself.

DEVELOPER TREYARCH • **PUBLISHER** ACTIVISION
www.callofduty.com

Call of Duty: Black Ops 4's take on battle royale, Blackout, feels like an unintentional commentary on the series as a whole. It's a sales-driven version of one of the most popular trends in gaming right now, expertly tuned to the whims of a capricious community. Blackout is a variation on ideas forged by bolder games. But with its usual array of compulsive multiplayer modes and the most instantly thrilling battle royale mode to date, Black Ops 4 has reignited my interest in the series.

Note the lack of singleplayer in that description. If you haven't heard, Treyarch has jettisoned the usual glossy eight-hour corridor campaign from this year's game. Though I have fond memories of the Call of Duty campaigns of yesteryear, especially Modern Warfare 2's, recent entries have left me unimpressed.

The whip-sharp precision and reactivity of Blackout's shooting easily outclasses the clunky gunplay of PUBG, while the smaller map and the generous distribution of quality loot ensures a much faster, more thrilling game more akin to Fortnite.

I rarely found myself without a pistol or rifle, even in the tense opening seconds of a match. I loved feeling like I had a fighting chance, but the zombies who patrol parts of the map wore on me, especially since it made my preferred stealth playstyle less viable. It's something PUBG and Fortnite don't have, but it's more of a nuisance than a legitimate tactical consideration.

Compared its contemporaries, Blackout might be a refinement rather than a revolution, but it's still one of the best battle royales that I've played. I plan to go back to it for weeks to come.

For its traditional multiplayer modes, Treyarch has ditched the divisive wall-running and double-jumping of Black Ops III. The simplified movement better suits Call of Duty's pure, no-gristle take on the genre. Nevertheless, this new entry has doubled-down on Black Ops III's 'Specialist' system, which layers character-specific abilities over the series' enduring class system. Though comparisons to Overwatch seem inevitable, these Specialists lean closer to the classes of Destiny's Crucible, where your choice of specific loadout is just as important.

The problem is that Call of Duty has, to me, always represented a 'pure' shooting experience, untainted by abilities and cooldowns. Perks and killstreaks are one thing, but area-of-effect flashbangs, Widowmaker-style wallhacks, and deployable accessories that redirect where your teammates respawn are a strange and clumsy direction for the series. Rather than the race of reflexes that brought the series to the dance, Black Ops 4 has lumbered into an uncomfortable middle ground between a pure FPS and a game of tactical teamwork.

Perhaps that's why I so enjoyed the game's new mode, Heist, which shunts abilities aside in favour of a Counter-Strike-style purchase menu.

> "I had much more fun with Black Ops 4's Rush mode, which pits players against one another in a murder race to see who can gather the most points..."

WHY SHOULD I CARE?

+ Campaigns are for noobs

+ There's no such thing as too many zombies

+ You really need a new Battle Royale experience.

After gearing up, two teams compete to locate a mound of cash and bring it to an exfil site. And there are no respawns to blunt mistakes. Rather than the popular Team Deathmatch, where you can endlessly spawn with the same gear without a thought for strategy, Heist makes you consider the advantages and disadvantages of Black Ops 4's considerable armoury from round to round.

The last part of the Black Ops 4's trifecta is its Zombies mode. While I admire the complex, obscure subsystems and subgoals that you have to master to achieve a 50-round run on the new IX map, they're layered over a foundation that boils down to a very pretty but very static shooting gallery – one that's broken up by bullet-sponge super-zombies with little in the way of personality. The lack of clear linear progression makes the mode opaque to newcomers.

The only other option is to strive for mastery through trial and error, figuring out the complexities of the bonus-bestowing Pack-a-Punch machine or the ideal build to synergise with your teammates.

There's an absolute ton of undead to slaughter in Black Ops 4, including two brand-new maps and a remake of Black Ops 2's Mob of the Dead. But after over 15 hours, I felt a deep urge to play through Left 4 Dead 2 again. I had much more fun with Black Ops 4's Rush mode, which pits players against one another in a murder race to see who can gather the most points by offing zombies. For me, this conjured the arcadey pleasures that World at War's original Zombie mode hearkened back to.

It's worth noting that I've experienced some serious stability problems while playing the game on my PC. Though it runs for hours without incident, I've had crashes in virtually every mode, some in the middle of games.

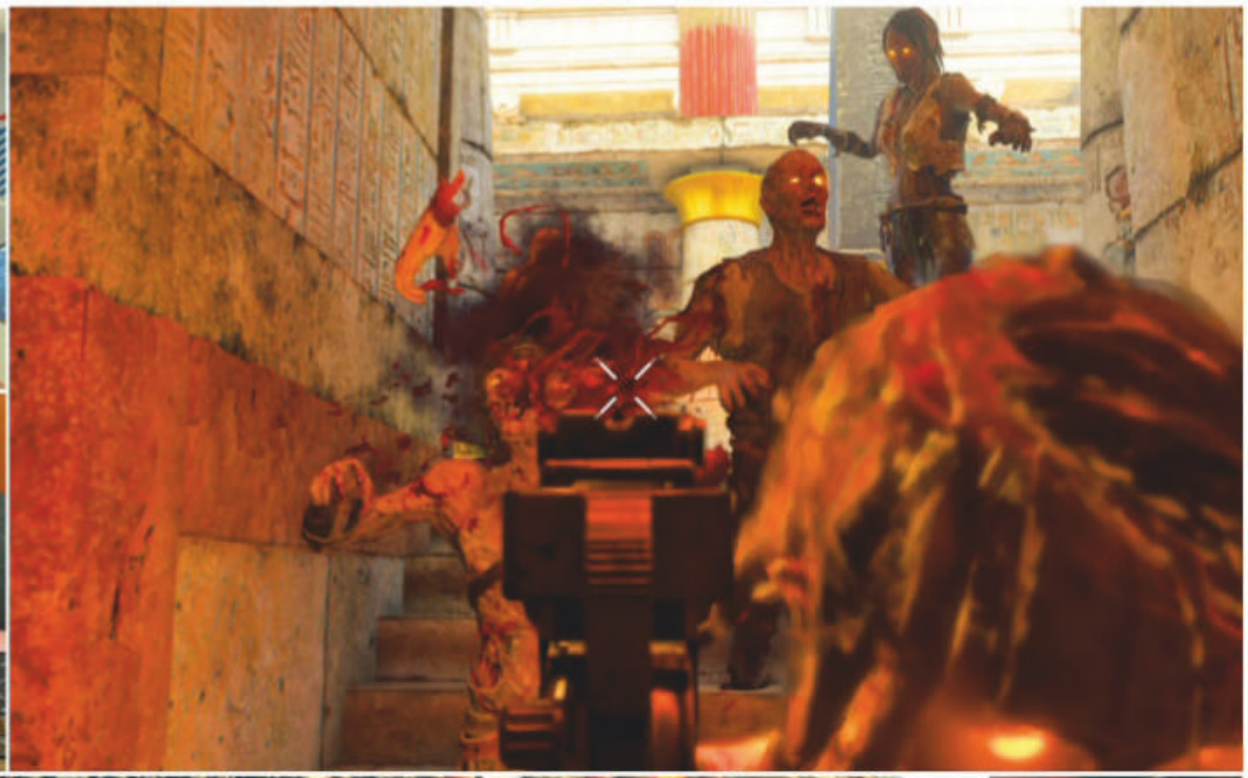
It can be hard to remember that this is the series that redefined the online shooter just a decade ago. Black Ops 4 no longer feels innovative, but the weapons are fun to use and its lighter, faster take on battle royale is best in class. So even though nothing about it is surprising, this year's CoD still gives me what I want after 15 years of blasting through the series: all-adrenaline, with guns that are a joy to use. ■

STEVEN T. WRIGHT PC

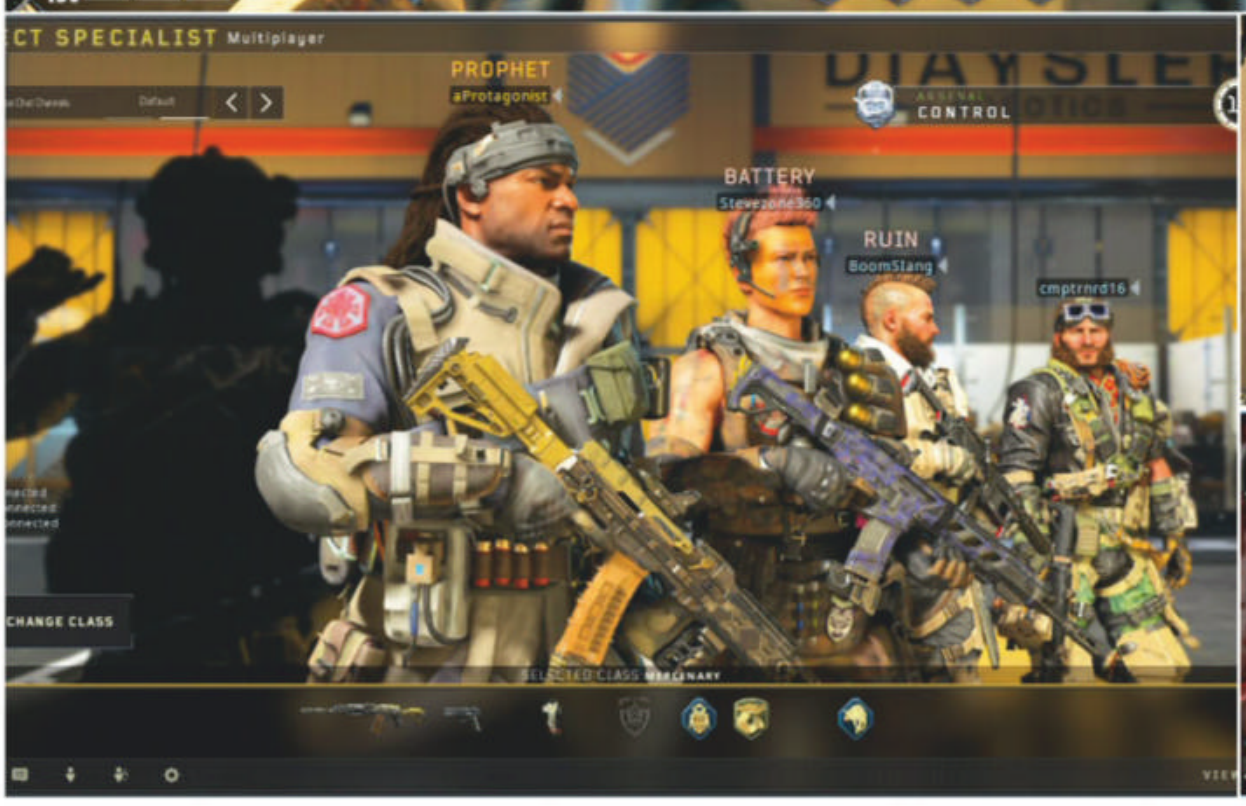
VERDICT:

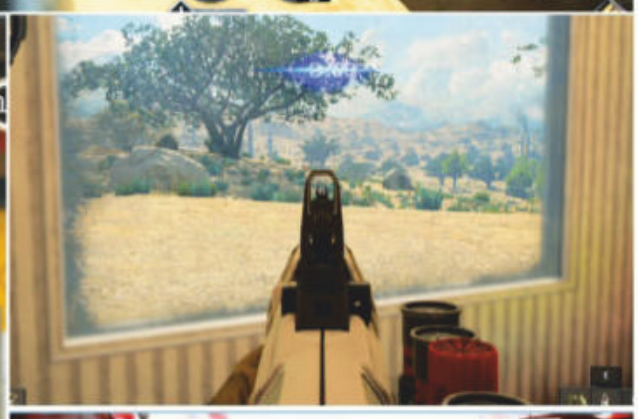
A well-made but unsurprising FPS that offers top-tier shooting and refined versions of the most popular modes.

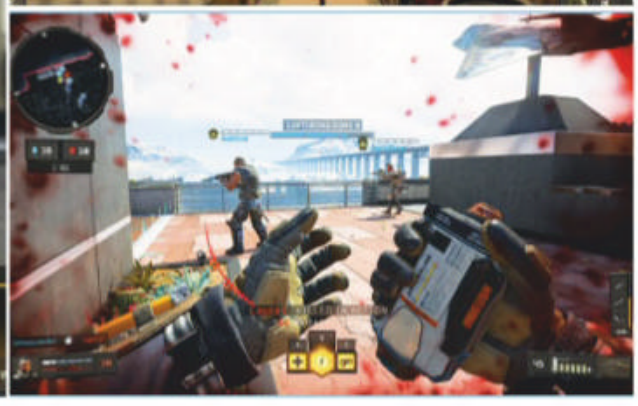
8



The lever-action Model 07 never gets old.







EXAPUNKS

Spending too much time on your computer makes you cool.

DEVELOPER ZACHTRONICS • **PUBLISHER** IN-HOUSE
www.zachtronics.com/exapunks

My digital army prepares to take on a bank.

My EXA, a digital bug-looking thing made of code, scurries out into rooms representing nodes in a factory's network. Following the program I painstakingly wrote for it, the EXA disrupts this network with precision before running the HALT command to self-destruct. There is no trace of the fact I have hacked this factory, except that the snack bars it produces no longer contain peanuts. It's the little victories.

Later I hack a street sign so it reads 'WAKE UP SHEEPLE' and want to punch the air in triumph. Exapunks is the latest game from Zachtronics, creator of tricky puzzle games such as Opus Magnum and Infinifactory that are all about moving things from one place to another, and hacking games such as TIS-100 that are all about typing made-up but believable code into computers. Exapunks connects the two.

In this alternate dystopian 1997 I've got the phage, a disease that slowly turns my skin into useless microchips like a crap cyborg. I can only afford medicine if I agree to perform arbitrary hacking jobs for a mysterious lady who doesn't understand human emotions and is totally not an AI. Sometimes that's making ATMs dispense cash for free, sometimes it's the peanut job.

Exapunks doesn't mess around. The tutorial throws you right in, expecting you to learn by reading a manual that comes in the form of an in-universe zine you can print out or just alt-tab to in a pdf reader. This zine, Trash World News, is a lovely little artefact that, as well as teaching commands like LINK to switch hosts and GRAB to interact with files, implies a whole community of helpful cyberpunks.

That's more than just worldbuilding, it's a hint about how to get the most out of this game. You shouldn't go alone. There's a real-world community on the Steam forums and the subreddit that's grown during its time in Early Access, and seeking them out for advice is essential. This is a game that requires a kind of programmer thinking you either have or you don't, and as someone who very much doesn't, I needed help.

> "I feel out of my depth, like a smart dog who graduated puppy school..."

My solutions are ugly and often involve multiple EXAs programmed with slight variations on the same code to deal with every possible eventuality. Cleverer players use commands like REPL to make replica EXAs containing cloned code. They're efficient in ways I not only don't think of, but never would.

Exapunks shares with Zachtronics' previous game Opus Magnum the idea it's okay to brute-force a puzzle. You'll still unlock the next level and story snippet, but you won't make the leaderboards. To do that you need to try harder, tweaking commands to use fewer lines of code, create fewer EXAs, be more elegant.

Exapunks is a two-coffee game, one that requires focus. Even then, there's a hard limit on how good I'll ever be. I feel out of my depth, like a smart dog who graduated puppy school and has been put in a physics class. Infinifactory and Opus Magnum remain the Zachtronics games I'd recommend, but if you aced both of those and are ready to graduate, Exapunks is the next level. ■

JODY MACGREGOR PC

WHY SHOULD I CARE?

+ So you think you can code...

+ You too have hardware growing from your skin

+ HACK THE PLANET!!!

OTHER HACKS

THE RED STRINGS CLUB
This is mostly about bartending, but it climaxes in a hackathon done over the phone by impersonating people to unlock corporate secrets.

ANALOGUE: A HATE STORY
On a colony ship where everyone is long-dead the only way to uncover the truth is by searching the logs and maybe flirting with the AI.

PONY ISLAND
An innocent-seeming cabinet is actually a cursed, Satanic artefact. You need overcome it by hacking the devil, and making a pretty pony jump over fences.

SHADOWRUN: DRAGONFALL
In this fantasy RPG with mirrorshades on, cracking computers is turn-based combat where you summon viruses instead of elementals.

VERDICT:

Exapunks is a hacking game that will make you feel like a genius or an idiot – sometimes both in quick succession.

8

Bad North

A cute strategy with dire consequences.

DEVELOPER PLAUSIBLE CONCEPT • **PUBLISHER** RAW FURY
www.badnorth.com

Seeking out the chokepoints is essential.

Do not let the adorable isometric sprite artwork, endearing character portraits and cute sound effects trick you into feeling safe. Bad North is not a lovely new friend. It's here to rob you of your time, beat you up and possibly even burn your house down. Certainly I wanted to burn everything down in a fiery fit of rage after I lost all my hard-earned progress to a silly mistake for the third time.

It's a simple strategy game, almost closer to being a puzzler. You have to defend a little island, or more specifically the cottages dotted around it. You have up to four units to hold off waves of Viking invaders. Bad North is about shuffling units around to make sure someone is on the beach ready to greet approaching enemies. Complications arise with more frequent waves and various enemy types requiring different units to counter. The key to each battle is teasing out the choke points on the islands – placing your troops where they can make the most difference without wasting time marching them from one end of the island to the other.

It lures you in with some breezy opening missions. Slow waves of opponents, easy odds, basic islands with clear layouts. Soon, a mission that looks the same as the last few has just one extra wave, one new type of foe, just a little extra something to catch you off guard. You realise your progress has been crushed because of one bad decision, sending you back to start the campaign all over again.

Your units are groups of eight or so little dudes and with each fight they diminish. You need to send them to a house to replenish or risk losing them forever, but while they're recovering their numbers they're unable to respond to any attackers. Making the call at the wrong time will cost you gravely. Lose all your units and it's game over, sending you back to square one.

It's an extremely harsh punishment for a game with such gentle presentation. Moving troops feels like playing with a small box of toys. The soft wind and waves make each island feel like a lovely little haven, the cottages dotting the islands adding to the wholesomeness. It's all so simple and evocative. Sure, some ominous music plays and there are some blood stains after a battle, but it barely registers when the rest of what's on screen is so nice.

> "It's an extremely harsh punishment for a game with such gentle presentation."

WHY SHOULD I CARE?

+ You just want to defend what's yours

+ You like cute but punishing things

+ Choke me, viking

It's hard to determine whether the deceptive nature is part of the point or harms what initially seems like a pleasant, laid-back strategy experience. You respond to oncoming attackers carefully, but easily. A nice alternative to more demanding strategy games. Yet that all turns on a dime with one single mistake. The consequence of failure feels at odds with the leisurely pace of combat.

There is a campaign map, randomly generated with each new game, to worry about between missions, where you apply upgrades and choose what island to tackle next. You get more rewards depending on how many cottages survive at the end of a level. It's all pretty straightforward but, like the missions themselves, Bad North doesn't suffer mistakes. Pick the wrong island or a naff ability then tough, that's your lot, no do-overs.

If you can stomach the harsh consequences for failure then Bad North is a delightful little strategy game. I keep restarting in spite of my mistakes, so that speaks volumes for how compelling it is. There's just something about watching those little sprites batter each other that keeps me coming back. At least until I burn my house down. ■

SAM GREER PC

VERDICT:

Mostly delightful, sometimes punishing. Bad North is a fun alternative to more complex strategy titles.

8

Return of the Obra Dinn

Discover the fate of a stricken merchant ship in supremely clever maritime mystery.

DEVELOPER LUCAS POPE • **PUBLISHER** 3909
www.obradinn.com

The cause of death here is pretty easy to figure out.

The merchant vessel Obra Dinn drifts its way into port, crewless and abandoned, having disappeared some years earlier. You, an insurance investigator, climb aboard the derelict sailing ship and begin to try and make sense of what happened to the crew – with help from a magical pocket watch.

This curious artefact lets you visit the moments before a person's death in an attempt to establish what happened to them. But with the fates of 60 sailors to determine, this is no easy task – especially as Return of the Obra Dinn, a few lean tutorials aside, steadfastly refuses to hold your hand.

This is a first-person puzzle game from Lucas Pope, creator of Papers, Please. It's rendered with a bold art style that recalls the dithered visuals of Macintosh adventure games. But Obra Dinn is no less atmospheric for it. In fact, the sense of place created by its hard lines and limited palette is quite remarkable.

You'll find bones of the former crew, and using the watch near them will whisk you away to a detailed vignette of the seconds before they died – be it an unfortunate accident, a brutal murder or something weirder.

Determining a cause of death is usually easy, because the evidence is right in front of you. You might see a man recoiling in pain as a shot from a flintlock rips through him, or another taking a fatal tumble down a stairway. The tricky part is discovering the identities of the people involved, which requires real detective work.

There are a few ways to find out who someone is. In some death scenes there's a snippet of dialogue and you might hear a name being called out. Or you'll have to look at where a person is on the ship, or what they're doing, to establish their identity. Is the guy sawing wood in the workroom the carpenter, for example, or did other circumstances lead him there? Things are rarely that simple in this game.

> "Whenever you make three accurate deductions, the notebook etches in your conclusions..."

As well as the watch you have a notebook at your disposal. Here you can cross-reference your deductions with a manifest outlining the roles and nationalities of the crew, an illustration of them all gathered on the deck and a glossary that explains some of the nautical terms you'll have to tangle with: often important clues to who a person is.

Whenever you make three accurate deductions, the notebook etches in your conclusions permanently. This stops you brute-forcing your way through the game, randomly selecting names in the hope one sticks. But it also left me feeling at a loss sometimes, with no indication that I was hot or cold with my theories.

But then inspiration hits you. You'll be fumbling around in the lower decks when something slides into place in your mind. A moment from a previous death scene that resonates with a current one. An identifying mark on a sailor. And in a brilliant flurry you'll snap more pieces of the jigsaw puzzle together and make the image a little clearer.

Return of the Obra Dinn is a stunningly clever thing and one of the best puzzle games on PC. ■

ANDY KELLY PC

WHY SHOULD I CARE?

+ You love clever puzzles

+ You love a good mystery

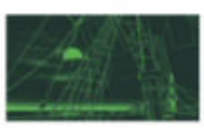
+ You love a good boat.

SCREEN BURN

COMMODORE 1084
A cool, pleasant blue palette inspired by a monitor released for the hugely successful Commodore 64 in 1987.

IBM 8503
If you prefer something a little more subtle you'll appreciate this colour 1988 monochrome screen.

ZENITH ZVM 1240
A vintage colour palette based on a 12-inch amber monochrome monitor designed by Zenith Data Systems in 1986.



IBM 5151
Inspired by the chunky little monitor that shipped with the very first IBM personal computer in 1981.

VERDICT:

A beautifully constructed and powerfully atmospheric mystery that you really have to work to solve.

9

Soulcalibur VI

Play a lizard and duel a horse.

DEVELOPER BANDAI NAMCO STUDIOS • **PUBLISHER** IN-HOUSE
www.bandainamcoent.com/games/soulcalibur-vi

Geralt brings Witcher spells to the Soulcalibur universe.

The samurai Mitsurugi launches into a vertical combo, sweeping his katana above his head and down again. He has several versions of this attack with varying ranges and speed, and it's easy to dodge. In other fighting games these windows of vulnerability are fleeting moments, but in Soulcalibur they are long enough to savour. A deft step left with Geralt exposes the samurai completely, and I punish Mitsurugi with a quick combo.

Soulcalibur VI creates satisfying battles with a simple set of commands. You have a horizontal attack, a vertical attack, a kick and a block. Special moves ask you to press two buttons at once along with a direction or two, and aside from a super attack and power-up move on the right bumper, that's more or less it.

It's the fighters' weapons that create real tactical variety. Maxi's nunchaku dance feels different to Talim's tonfa beatdown style, and range management is key when you're facing Kilik's bo staff or Nightmare's greatsword. 18 of the 21 characters have appeared in previous Soulcalibur games, and their movesets are familiar. New fighters include Geralt from the Witcher series, Azwel who can summon weapons, and Groh who can split his bladed staff into two swords.

By pressing back and the right bumper each character can spend Soul energy to enter a powered-up state. That unlocks new moves, and can be punished by characters like Geralt, who uses his silver sword to deal extreme damage against empowered fighters.

Weapon arcs are marked by trails so you can easily see the shape of attacks. 'Reversal Edge' attacks trail bright red energy. When these connect the game goes into slow-mo and players have to choose an attack, block or dodge. These duels feel luck-based, but they look great and grant breathing room.

> "Weapon arcs are marked by trails so you can easily see the shape of attacks."

WHY SHOULD I CARE?

+ You think Mitsurugi deserves some respect

+ You're a bolted on fan

+ Anything Geralt-related must be good, right?

Each character has a story, made up of a gauntlet of fights interspersed with still art and dialogue scenes. There's a main story of sorts, following Kilik's quest for the demonic blade Soul Edge. You can also create your own fighter and march them around a map of Europe. On the way you get into fights with other character creator monstrosities, level up, find new weapons and bump into members of the main cast. This is a long mode with a lot of text. It takes ages for opponents to become challenging, and the interesting weapon upgrade system is absent for hours. When you do get to fight, it's often for one all-too-brief round.

There is also ranked play. This is where you see the strangest custom characters. All creations have to adhere to one of the main roster characters' movesets, and it's still amusing to see a man with a giant horse head wielding Geralt's swords. It sums up Soulcalibur's appeal perfectly. It can be dumb and, in singleplayer, a little dull, but the fights are fun and sidestepping Mitsurugi never gets old. ■

TOM SENIOR PC

VERDICT:

A good casual fighter with a great roster and exciting brawls, let down by an undercooked singleplayer component.

8

Tech 274

YOUR GUIDE TO PC GAMING HARDWARE

The key to good gaming

Who the heck lets me keep writing headlines?

This issue we're continuing our exploration of Nvidia's new RTX series of video cards. We lasat looked at the new GPU itself in depth, whereas this month we're rounding up a batch of the new GeForce RTX 2070 cards. This is easily the most affordable of the series, though still a hefty drop of cash. Performance is right in the sweet spot, however - unless you're talking about fancy ray-tracing performance. Have a look back out our Battlefield V review to see how that tech can impact in-game performance, but long story short... it basically impacts frame rates pretty heavily, though it does look pretty swish.

So should you make the upgrade? Well, you're about to find out...

David Hollingworth

Editor

Our Power Award is given to products that are best in class no matter your budget.

Our Smart Buy Award goes to products that balance performance with price tag.

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THE PCPP TESTBENCH

CPU
INTEL I7 7700K
intel.com.au

MOBO
ASUS Z270 ROG CROSSHAIR VI HERO
asus.com.au

RAM
2 X BALLISTIX 8GB DDR4-3200
crucial.com

PSU
CORSAIR 850W PSU
corsair.com

COOLING
H105 CORSAIR COOLER
www.corsair.com.au

GAMING LAPTOP

MSI GF63 gaming laptop

Some serious bang for your buck.

PRICE $1199
au.msi.com

The MSI GF63 8RC has to be our top choice for budget friendly gaming laptops. Priced as low as $649.99 on sale, the GF63 comes equipped with Intel's i5-8300H, 8GB of DDR4 ram, Nvidia's GeForce GTX 1050 and one of the thinner bezels we've seen in this price range. The only obvious downside is the lack of an included SSD. The laptop comes loaded with a 1TB HDD which means you'll probably want to upgrade the storage fairly quickly.

When it comes to performance, the laptop is tough to beat at $1199. The GF63 already scores respectable benchmark results out of the box, but a couple of inexpensive upgrades will stretch that performance even further. The GF63 is also one of the more portable gaming notebooks we've tested. MSI was able to pack quite a bit of firepower in a machine that weighs as little as 4.10 lbs. Unfortunately, this lightweight machine does come with a couple of caveats. A lighter laptop usually means a smaller battery, and our battery tests showed its 3-cell battery was only good for about 4-5 hours of gaming.

MSI also did a great job packing a 15.6-inch display into a 14-inch frame here. The backlit keyboard combined with its narrow bezels make the GF63 look like a sleek gaming machine you wouldn't expect to find in this price range.

While it won't beat a budget gaming desktop in performance, MSI's GF63 8RC comes closer than any other laptop in its price range. It scored a respectable 3224 in our PCMark benchmarks and an impressive 5384 in 3DMark Fire Strike. That's only about 12% lower than our desktop GTX 1050 counterpart. When compared to ultrabooks and budget machines with integrated graphics, the GF63 leaves them in the dust.

Real world testing proved even more impressive with the GF63. Playing Overwatch on high settings at 1080p resulted in a consistent 90 FPS throughout. Graphic intensive modern titles like Ghost Recon: Wildlands and Shadow of the Tomb Raider proved to be a little more of a challenge for the machine, scoring 29 and 35 FPS respectively at 1080p high settings. You might want to lower a few settings for games like these, but the rest of our gaming library could be played at 1080p with 40-60 FPS or higher.

It won't give you a glorious 60 FPS on those new titles like Black Ops 4, but the GF63 does a great enough job considering its price point. If you don't mind adjusting a few graphic settings or playing at 720p, this laptop provides more than enough power for casual gaming.

> **"Playing Overwatch on high settings at 1080p resulted in a consistent 90 FPS throughout."**

As expected for any gaming laptop, the GF63 ran hot after several hours of gaming tests. The fans were also quite loud since ventilation is always a challenge with a relatively compact and lightweight machine. The good news is we barely noticed any thermal throttling so you can expect fairly consistent performance during extended gaming sessions.

TERRENCE MAI PC

+
- Affordable discrete GTX 1050 graphics
- Easy to upgrade RAM and storage
- Noticeably lighter than competition

-
- Wifi performance is lacking
- No included SSD

VERDICT: **The MSI GF63 8RC is a lightweight powerhouse that's great for work, school and play.**

8

NVIDIA GTX 2070

Is this card poised to be the new price performance gaming king? Chris Szewczyk is in the Labs to find out.

Back in September 2018, Nvidia's RTX 2080 and RTX 2080 Ti made their long-awaited debut. While we were impressed with the cards and their forward looking technologies, their high prices were definitely a downer. The GeForce RTX 2070 goes some way to addressing that, though the cheapest versions are still well over $800 leaving RTX 2070s priced too high to unequivocally recommend compared to the previous Pascal generation. For now though, The RTX 2070 is the cheapest way to jump onboard the Turing train.

Nvidia has departed from its recent tradition of equipping the x70 card with a cut down variation of the GPU found in the x80 card like we saw with the GTX 970 and 980, and GTX 1070 and 1080. This time the RTX 2070 makes use of an entirely separate GPU, the TU106. This is a significantly smaller GPU than the TU104 found

> While a lot of the forward-looking features are very impressive, their real world performance is still largely unknown. The previous generation GTX 1000 series cards still offer tremendous gaming performance, making a card like the RTX 2070 a side-grade for some users

in the RTX 2080, helping Nvidia to save on manufacturing costs. It also gives Nvidia more freedom to release other SKUs in the future. Who wants to bet that we'll see a RTX 2070 TI using a cut down TU104 and RTX 2060 Ti using a cut down TU106?

The RTX 2070 makes use of the full TU106 die without any disabled features. It comes with 2,304 CUDA cores, 288 Tensor cores and 36 RT cores. It makes use of 8GB of GDDR6 memory over a 256-bit bus, identical to the RTX 2080. Power consumption has risen compared to the GTX 1070, but on the other hand, its reasonably thrifty compared to the 215-225w of the RTX 2080. Note that the RTX 2070 doesn't have and NV-Link or SLI fingers as it's not supported.

The Tensor and RT cores are at the heart of what Nvidia is trying to achieve with Turing. Tensor cores are designed to accelerate AI and deep-learning applications. We're yet to see how these cores will impact gameplay though we're impressed with Deep-Learning Super-Sampling (DLSS) which delivers very high quality AA levels without taxing the GPU the way traditional AA does. The RT cores are obviously used for ray tracing applications. There are a few demos on the web that are well worth checking out to see just how gorgeous some of the new technologies are. There are plenty of games coming that make use of RTX features including Battlefield V and Metro Exodus.

We've got our hands on a selection of RTX 2070 models from Asus, Gigabyte and MSI. They are joined by the rarer RTX 2070 Founders Edition. Read on as we take a look at what may be the most important RTX model of all.

NVIDIA 2070 BENCHMARKS

Indicates Best Result

	Ghost Recon Wildlands (Very High Preset)						Shadow of War (Ultra Preset)		
	1920x1080		2560x1440		3840x2160		1920x1080	2560x1440	3840x2160
	Min	Avg	Min	Avg	Min	Avg	Avg	Avg	Avg
Nvidia GeForce RTX 2070 Founders Edition	87.74	100.87	63.49	76.76	34.97	45.27	115	80	48
Asus ROG Strix GeForce RTX 2070 Gaming	90.46	104.30	65.24	79.53	35.83	47.15	117	83	49
Gigabyte Aorus GeForce RTX 2070 Xtreme	90.19	103.78	67.01	79.45	35.23	47.45	117	83	49
MSI GeForce RTX 2070 Gaming Z	91.91	104.40	67.33	79.99	38.20	47.97	118	84	49

	3DMark		Temperatures ©	
	Firestrike	Firestrike Extreme	Idle	Load
Nvidia GeForce RTX 2070 Founders Edition	20929	10673	36	72
Asus ROG Strix GeForce RTX 2070 Gaming	20779	10825	33	69
Gigabyte Aorus GeForce RTX 2070 Xtreme	20813	10815	34	67
MSI GeForce RTX 2070 Gaming Z	21016	11015	34	65

CPU: Intel i7-8700K @ 4.8GHz all cores ▪ **Motherboard:** ASRock Z370 Taichi ▪ **RAM:** 2x8GB Crucial Ballistix DDR4-3200 ▪ **Power Supply:** Antec HCP-1200W ▪ **Storage:** 1Tb Samsung 970 EVO M.2 SSD ▪ **Cooling:** Corsair H100i Pro ▪ **Operating system:** Windows 10 Pro 64-bit

GRAPHICS CARD

Nvidia GeForce RTX 2070 Founders Edition

A surprisingly compact RTX 2070.

PRICE $999
www.nvidia.com.au

High end graphics cards have generally trended upwards in size. Triple slot cooling and PCBs protruding well above the PCIe bracket are the norm. With this in mind it's a real surprise to see just how compact the RTX 2070 Founders Edition is. Small doesn't mean cheap and ineffective though. We were pleasantly surprised at how much of a jump in quality the RTX 2080 and 2080Ti Founders Edition cards were over their predecessors. At a glance the RTX 2070 Founders Edition looks like a good step forward too.

From the outside, the RTX 2070 Founders Edition looks like a compact version of its big brothers. Gone is the old noisy blower cooler. In its place is a totally redesigned cooler featuring twin 8.5cm axial fans blowing down into a fin array. Users who miss the old blower cooler still have 3rd party options to choose from. The card is surrounded by an aluminium shroud that assists with cooling, as well as providing structural rigidity to the card.

The top of the card features the usual GeForce RTX logo, but of course there's no NV-link connector available, as the RTX 2070 doesn't support it. The 8-pin power connector is moved to the side of the card, which helps with cable management and gives a cleaner look if it's to be shown in a windowed case.

The RTX 2070 Founders Edition offers two DP 1.4 connectors, a single HDMI 2.0b, and somewhat surprisingly in 2018, a DVI-DL port.

The PCB is adequate, but nothing more. A basic 6+2 phase VRM powers the GPU and GDDR6 memory. If you're looking to extract the maximum from the TU106 GPU, then the aftermarket cards with custom PCBs offer a significant step up in component quality. As it is though, the Founders Edition gets the job done and will appeal to users who don't need their GPU to come with the kitchen sink.

The Founders Edition can't match the boost clocks of the custom cards but getting within a few percent despite the compact cooler's handicap is still admirable. It can even game at 4K making it a compelling compact option for a lounge room gaming PC. Where's that Nvidia Big Gaming Display? The card isn't noisy either.

The RTX 2070 Founders Edition is a good step forward in terms of thermals and acoustics compared to the old blower style cards. While the 2070 is a good card, there's no doubt that pricing remains a negative and takes away some of the excitement we usually have when reviewing new high-end GPUs. We'll have to revisit the whole RTX 2000 series once the technology sees widespread use. Here in late 2018, the RTX 2070 is still a very capable gaming card but if you're gaming away on a GTX 1080 or higher, the Founders Edition seems like more a of a side-grade. For everyone else, the RTX 2070 is a very fast GPU, perfect for high quality 1440P gaming. *CHRIS SZEWCZYK* PC

> "It can even game at 4K making it a compelling compact option for a lounge room gaming PC."

Nvidia GeForce RTX 2070 Founders Edition, 2304 CUDA Cores, 1410MHz Base Clock, 1710MHz Boost Clock, 8GB GDDR6 14Gbps memory, 448GB/s Memory Bandwidth, 3x Display Port 1.4, 1x HDMI 2.0b, 1x DVI-D, 1x USB Type-C, 1x 8-Pin Power Connector, 185W TDP

+
- Hands down a marvelous GPU
- Cheaper than any other RTX card

-
- And yet still too damn expensive for most of us

VERDICT:

An incredible hardware triumph in every way, but the price makes it a tough upgrade for anyone with a high-end PC.

8

GRAPHICS CARD

Asus ROG Strix GeForce RTX 2070

A high end RTX 2070 with a price to match.

PRICE $1,199
www.asus.com.au

The ROG Strix 2070 is the flagship Asus 2070 offering. The bar is always set high for any ROG product and if you take one look at the ROG Strix 2070 you'll know it's a premium offering. It packs in a premium PCB, a beefy cooler and plenty of unique ROG features. The competition is tough though and the Asus has a significant price premium that needs to be justified.

The Strix 2070 is outwardly similar to the other Strix RTX cards. The build quality is superb with a large brushed aluminium back plate that's enhanced by an RGB lit ROG logo. There's also a large PCB baseplate that helps to cool the components while offering additional rigidity. The shroud features some RGB highlights around the fans while the ROG logo on the side of the card is also lit.

The cooler is a triple fan design. Like many cards these days, it's effectively a triple slot cooler. Asus uses custom designed axial fans to increases static pressure which is a good thing with dense fin heatsinks. Like most coolers these days, the fans stop when the card is idle, only spinning up when the card reaches a temperature threshold.

The PCB of the Strix 2070 is particularly impressive. A 10 Phase VRM is present, easily capable of powering the not-too-thirsty TU106 GPU. There's also a pair of fan headers present which are very useful for controlling adjacent case fans. An additional RGB header can be controlled via Asus' Aura Sync app. If you're not crazy about RGB though, there's a handy switch to turn it off if you prefer. Other features include voltage read points and a BIOS switch to change between quiet and performance modes.

Asus have deviated from the standard RTX 2070 video outputs. Gone is the DVI-D connector and one of the DisplayPorts. We have a pair of DP 1.4 connectors, 2x HDMI 2.0b and a USB Type-C port. The inclusion of dual HDMI is a good thing for those who plan to use a VR headset.

Performance wise, the Strix 2070 performed notably better than the Founders Edition but we did note that it ran just that couple of degrees warmer than the Aorus and MSI cards which meant its maximum boost clock fluctuated a tiny bit more. The Strix cooler is very quiet indeed and we simply couldn't hear it over the fans from our AIO CPU cooler.

The Asus ROG Strix 2070 is an excellent 2070 offering that crams custom features into a very well built package, but when it costs over $100 more than its high end competitors, it's tough to recommend. When the supply settles and pricing stabilizes, by all means take a look at the Asus Strix 2070. It's an excellent and particularly quiet card with some unique features that that reinforces the reputation we've come to expect from Asus ROG.
CHRIS SZEWCZYK PC

> "Performance wise, the Strix 2070 performed notably better than the Founders Edition..."

Asus ROG Strix GeForce RTX 2070 Gaming, 2304 CUDA Cores, 1410MHz Base Clock, 1845MHz Boost Clock, 8GB GDDR6 14Gbps memory, 448GB/s Memory Bandwidth, 2x Display Port 1.4, 2x HDMI 2.0b, 1x USB Type-C, 1x 8-Pin & 1x 6-pin Power Connectors

+
- Packed with custom features
- Excellent connectivity

-
- Just a bit too pricey

VERDICT:

The Asus Strix is an excellent GTX 2070 but strong competition leaves in a tough position with its hefty price premium.

9

GRAPHICS CARD

Gigabyte Aorus GeForce RTX 2070 Xtreme

A 2070 that's truly blinged out.

PRICE $1,079
www.gigabyte.com.au

The Gigabyte Aorus 2070 Xtreme really is a bit different. In addition to a custom PCB, factory overclock and hefty triple fan cooler, the Aorus Xtreme manages to pack in 7(!) video outputs and comes with a spectacular RGB implementation.

We knew we were looking at something different the moment we took the Aorus 2070 Xtreme out of its box for a visual inspection. Gigabyte calls its new cooler the Windforce Stack 3x. It utilises three 100mm double ball bearing fans that spin in alternate directions. The cooler's shroud is also interesting. Most GPU coolers are quite closed but the 2070 Xtreme features a wide open shroud that should theoretically be better for heat dissipation.

Normally we wouldn't devote too much time to talking about RGB, but this cards demands it. It's spectacular and needs to be shown off in a vertical position inside a windowed case. What makes it so visually striking is it's the fans themselves that have RGB LEDs. There's a complete range of effects to choose from. Beware: you may find yourself looking at the Aorus Xtreme 2070 instead of your monitor! We'd go as far as to say it's the best RGB implementation of any graphics card we've ever seen. It's not all about bling though. The Windforce Stack 3x cooler is able to maintain its boost clocks at high levels, while remaining effectively silent. If you keep it cool enough, it will boost over 1900MHz. Impressive!

The card features a fully customized PCB with a 10+2 phase VRM. It's powered by 6-pin and 8-pin PCIe power connectors. The memory chips and MOSFETs are cooled by their own heatsink plate and there's a full cover back plate (with RGB of course) that assists with component cooling.

The Aorus 2070 Xtreme performed well during our testing. It's a good jump ahead of the already overclocked 2070 Founders Edition and performs on par with the other custom cards we covered. It provides great performance at 1440p even at high refresh rates and is capable of 4K gaming.

The other unique feature among our tested cards is the array of video ports. While Gigabyte states that you can only use five at one time, it's great to have this kind of flexibility. You can use 3x HDMI + 1x DP and the USB or 3x DP, 1x HDMI plus the USB. The 3x HDMI mode would be particularly useful for users rocking a VR headset, plus a HDMI TV and a monitor or two all at the same time.

We like to spend most of our time looking at the monitor when gaming, but the Aorus 2070 Xtreme kept drawing our attention! If you're looking for a card to show off, this is definitely the one to get. It's far from a one trick pony though. It performs admirably while staying cool and quiet. Gigabyte also offer a 4 year warranty (after registration). Combine all this with a decent price and the Aorus 2070 Xtreme is easy to recommend. *CHRIS SZEWCZYK*

> "Beware: you may find yourself looking at the Aorus Xtreme 2070 instead of your monitor!"

Aorus GeForce RTX 2070 Xtreme, 2304 CUDA Cores, 1410MHz Base Clock, 1815MHz Boost Clock, 8GB GDDR6 14Gbps memory, 448GB/s Memory Bandwidth, 3x Display Port 1.4, 3x HDMI 2.0b, 1x USB Type-C, 1x 8-Pin & 1x 6-pin Power Connectors

+
- The RGB lighting is pretty cool
- Lots of video ports

-
- Might be a little too distracting?

VERDICT:

Gigabyte's Aorus RTX 2070 Xtreme is a gorgeous looking card that offers great performance and cooling capability without an Xtreme price.

9

GRAPHICS CARD

MSI GeForce RTX 2070 Gaming Z 8G

RTX 2070 turned up to 11.

PRICE $1,069
www.au.msi.com

Comparing the RTX 2070 Founders Edition next to the MSI RTX 2070 Gaming Z is almost like comparing a Tonka truck to a Hummer. The MSI is a huge card that positively dwarfs the Founders Edition.

The Gaming Z is MSI's highest tier of Gaming card, surpassed only by the limited edition OC focused Lightning series. It comes with an out of the box boost clock of 1830MHz. This is a big jump over the Founders Edition card, though it does come with a power consumption penalty as MSI states the 2070 Gaming Z can use up to 225W. To put that into perspective, that matches the RTX 2080 Founders Edition power consumption. The PCB is a fully custom design featuring an 8+2 phase VRM all cooled via thermal pads.

Its physical dimensions mean that some consideration needs to be given with regards to the case it will go into. At 307x155x50mm, it's a big triple slot card but also very tall. It has a lovely brushed metal backplate that assists with cooling while looking great as well. There's a large metal support plate attached to the PCIe bracket that doubles as a RAM cooling plate while also adding rigidity to the card, preventing any sagging. It certainly needs it! The Gaming Z features a fairly typical complement of three DP 1.4 ports, a HDMI 2.0b port and the Type-C USB port. It is powered by 6-pin and 8-pin PCIe power connectors.

The MSI RTX 2070 Gaming Z features the latest Twin Frozr cooler that MSI has been continually refining. Now in its 7th iteration, the latest version uses two very large double ball bearing fans that do not spin up at all when the card is idle. The shroud features a healthy adornment of RGB lighting as is standard among all high-end graphics cards in 2018.

The MSI was able to boost to very high levels beyond the official boost clock. The monstrous cooler meant the MSI was able to consistently deliver the best performance out all the 2070's we tested (even if the margin is tiny). If a GPU cooler can keep a card cool and maintain a very high boost clock while staying effectively silent, then it's doing its job very well. The MSI Twin Frozr 7 does just that.

MSI has taken the TU106 GPU and given it the full aftermarket treatment. It's marginally the fastest 2070 we tested and it's also pretty good value. It's still quite a jump in price over the budget oriented 2070's though (if there is such a thing). Whether the bells and whistles are worth the extra money is up to you and the state of your bank balance. MSI has carved a strong reputation for itself thanks to a long line of highly recommended graphics cards and the RTX 2070 Gaming Z adds to that reputation. It extracts the maximum from the RTX 2070 GPU. *CHRIS SZEWCZYK*

> "MSI has taken the TU106 GPU and given it the full aftermarket treatment."

MSI GeForce RTX 2070 Gaming Z, 2304 CUDA Cores, 1410MHz Base Clock, 1830MHz Boost Clock, 8GB GDDR6 14Gbps memory, 448GB/s Memory Bandwidth, 3x Display Port 1.4, 1x HDMI 2.0b, 1x USB Type-C, 1x 8-Pin & 1x 6-pin Power Connectors, 225W TDP

+
- just about the fastest card on the block
- Well-priced

-
- Do you want to pay for the extra features?

VERDICT:

The MSI RTX 2070 Gaming Z wrings the neck of the TU106 GPU, extracting the maximum performance possible.

9

The **Thermaltake Level 20 MT ARGB** Mid Tower

THE IDEAL CASE FOR YOUR NEXT BUILD.

With the new year fast approaching, building a new PC is sure to be high on a lot of people's to-do lists – it's a good summer project, and it's important to refresh occasionally. Maybe you've already picked out your preferred graphics card, thought about a new monitor, figured out roughly how much your budget is, what specs you'll need, and what you're use it to run.

But when building the PC of your dreams, it's important not to overlook the case you house everything in. The ideal case won't just comfortably hold everything you need to run the latest games – it'll offer proper ventilation and cooling, it'll be made from high quality materials, and it'll look the part. You want a case that looks right at home if you take it to a LAN, which isn't too heavy to cart around, but also one that fits right into a home office environment – a case that's fun to show off without being overly showy. It shouldn't be something you have to set aside your entire PC budget for – the ideal case should make your set up look as impressive as possible without breaking the bank.

The Level 20 MT ARGB Mid Tower is a mid-sized case option that fits the bill and is a great fit for all kinfs of different builds. It weighs in at 6.75kg, measuring in at 455 x 204 x 471mm (height, width, depth), with two USB 3.0 ports on the front, along with a port for HD audio. The case itself is black, a simple, attractive, classical design. Cases of a similar size will often be made mostly of hard plastic parts, but both the frame and the motherboard tray are cut from SPCC steel, making for a higher quality case that feels as good as it looks.

The Thermaltake Level 20 MT ARGB Mid Tower is designed to make building and maintaining your PC easy. It's classy and stylish without being gaudy, with an attractive design that features an enlarged side panel window of 4mm tempered glass to show off your PC's guts and spectacular ARGB intake fans on the front. But the Level 20 MT is much more than just a pretty case. It's a perfect model for your next PC build, whether you're looking to put together a gaming PC, a multimedia focused machine, or a workstation with some serious personality. In fact, it's ideal for an all-in-one build.

As a mid-size case, there's plenty of room for all the essential parts. It can take an ATX, Micro ATX or Mini ITX motherboard, with seven expansion slots available so that you can plug in GPUs, wireless adaptors, or anything else you might like to. There's also space for an optional standard PS2

PSU inside. If you're a hobbyist or beginner, this is ideal – you can start small and know that you'll have plenty of room to expand later if you want to beef up or improve your PC. You can fit in a CPU cooler of up to 170mm in length, any portable storage device under 170mm, or a Video Graphics Array up to 366mm (260mm if you have a radiator in there as well).

This is an ideal case for keeping your components cool. Along with a hefty exhaust fan, the MT features three pre-installed ARGB 120 x 120 x 25mm front intake fans on the front. These three are addressable through software and give the case a unique, brilliant aesthetic. Pressing the case's RGB switch allows you to switch between different modes of lighting, changing colour schemes and shifting between 'wave' and 'flow' mode, giving you some serious customisation options.

The RGB sync function built into the case means that it's compatible with the lighting sync software on a wide range of motherboards. Thermaltake also offers a huge range of RGB products, such as the All-in-One Water 3.0 Ring RGB 240, which you can slot into the front or side of the Level 20 MT ARGB Mid Tower. This is an option if you want AIO Liquid Cooling, or there's room to side mount a radiator cooler on the motherboard tray side if you're putting together a PC that's really going to run hot.

The RGB products inside your case can be synced up to music, customised to match your gaming exploits, or can simply be set to glow and show off the innards of your PC. With its glass side and front intake fans, the Thermaltake Level 20 MT ARGB Mid Tower is a perfect case for anyone looking to get into RGB lighting in a big way.

The case is also compatible with ASUS Aura Sync, Gigabyte RGB Fusion and MSI Mystic Light Sync, so you can customise how you see fit depending on your preference or what you might already own. The case supports up to ten fans across the front, top, rear, right side and bottom, so you'll never have to worry about all your more expensive parts overheating – and you can be assured that all the fans keeping your PC cool will look great.

The case is also compatible with ASUS Aura Sync, Gigabyte RGB Fusion and MSI Mystic Light Sync, so you can customise how you see fit depending on your preference or what you might already own.

The Thermaltake Level 20 MT ARGB Mid Tower is designed specifically to make the process of putting your computer together, and upgrading or updating it in the future, as painless as possible. It features several drive bays for expansion, with an innovative tool-less design to make the whole process quite bit easier should the need arise. It also offers advance cable management to help you deal with the numerous cables involved in setting up your desktop. The side and front panels come away easily for any tinkering you might want or need to do in the future.

All of this is offered at a competitive price point, too, so you'll have plenty of your budget left over for everything else. The Thermaltake Level 20 MT ARGB Mid Tower offers everything you could want from a case of its size, and will satisfy the needs and wants of tinkerers, beginners, enthusiasts and experts alike. If you're looking to build a new computer in 2019, rebuild your current machine, or set up a secondary system for multimedia, work, or gaming, this is the case for you.

SSD

HyperX Fury RGB SSD

RGB comes to entry-level SSDs.

PRICE $199
www.hyperxgaming.com

The HyperX Fury RGB comes resplendent with a fully-controllable RGB light show and boasts up to 550/480 MB/s of sequential read/write throughput. But while the performance may seem impressive on paper, the specs don't tell the entire story. Our testing found lackluster performance in real-world file transfers and productivity applications. Adding in a paltry three-year warranty and high pricing makes the drive hard to recommend, though some will probably find the shimmering RGB goodness too much to resist.

The SSD comes in 240GB, 480GB, and 960GB models that are all rated for up to 550/480 MB/s of sequential read/write throughput. Kingston hasn't shared the Fury's random performance specifications yet, but we put them to the test on the following page. Kingston provides an Acronis True Image HD software activation key so you can clone your existing drive to the new one. You can also spend a bit more for an upgrade kit that includes a USB 3.0 enclosure, 3.5in bracket, mounting screws, and a SATA data cable.

You'll need a 12V RGB compatible motherboard or lighting controller to control the SSDs' lighting. Kingston lists compatibility with popular software suites, like Asus Aura Sync, Gigabyte RGB Fusion, MSI Mystic Light Sync, and ASRock's Sync.

The 75 LEDs, which you can see distributed on the back of the PCB, default to red if you do not have a controller or compatible motherboard. The RGB cable is nearly 32", which is long enough to allow for almost any mounting option. Like the SATA power cable, the LED cable can provide power to the lights when connected. You can also daisy-chain the SSD with other RGB devices to match up the colors.

HyperX's Fury RGB scored a total of 4982 points in PCMark 8's storage benchmark, ranking behind Samsung's 860 EVO 500GB and WD's Blue 3D 500GB. It averaged 270 MB/s of bandwidth during the test, which is very close to the WD Blue 3D SSD and ahead of competitors from Intel and Crucial. The Marvell SATA controller was a bit more agile in this test than the SMI and Phison-powered competitors.

Things went downhill little by little as we tested the HyperX Fury RGB further. During our 50GB file copy test, the Fury RGB lagged all other SSDs with an average bandwidth of 107 MB/s. Even the UD Pro, the slowest SSD we've tested yet, performed better. The Fury was lackluster compared to other SSDs, but it still managed to copy the folder more than twice as fast as a WD Blue HDD.

> **"Things went downhill little by little as we tested the HyperX Fury RGB further."**

The Fury RGB attained 556/518 MB/s of read/write throughput at QD (Queue Depth) 32. The write performance wasn't very impressive, but the SSD nearly saturated the maximum real-world speed of the SATA interface during read.

The Fury RGB landed either near or at the bottom of the chart during our random 4K performance tests at QD1. Both Intel and Samsung SSDs perform a bit better at the lower QD 1-8 ranges, which is what we look for to weed out which of these SSDs performs the best in real-world use.

SEAN WEBSTER PC

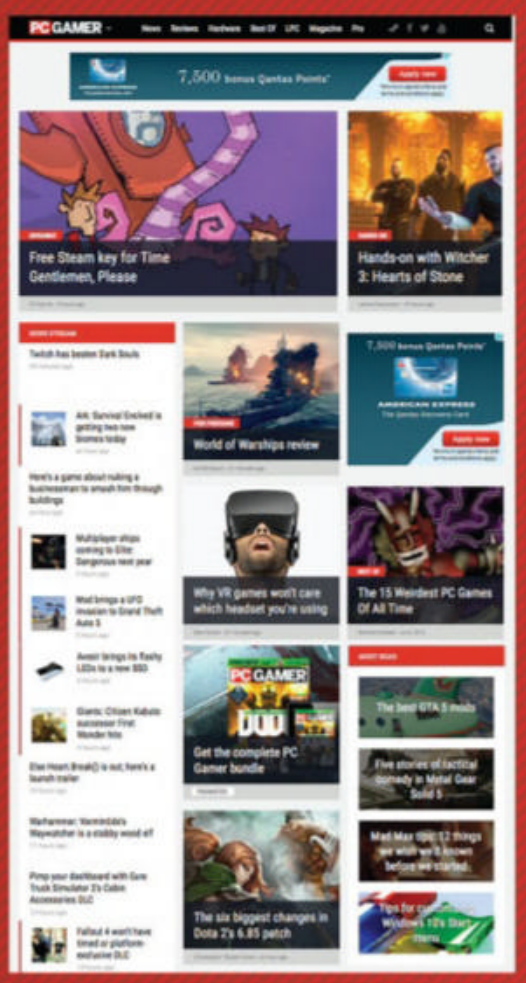
+
- Versatile RGB implementation
- Speedy read performance

-
- Disappointing media performance
- Lags behind many competitors

VERDICT: **RGB is all the rage these days and HyperX's new Fury RGB looks amazing, but its performance just isn't up to par.**

6

SMARTER COOKIES ENABLED


PC GAMER
7,500 bonus Qantas Points*
Free Steam key for Time Gentlemen, Please
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World of Warships review
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CASE

Thermaltake Level 20 MT ARGB

The latest Level 20 case merges RGB excess with subtle styling.

PRICE $119
www.thermaltake.com.au

When you see Thermaltake's new case in action, full of slick PC hardware and lit up like some frame-rate spewing Xmas tree, you'd think you're looking at a very high-end case that only the most dedicated enthusiast could afford to build into. It's got a lot higher-end bells and whistles, but is paired back where it counts, meaning this striking ATX chassis brings the looks, while still only costing $119.

The most striking thing about the case on first blush is its impressive cooling. Out of the box the Level 20 MT ARGB boasts three 120mm intake fans and a 120mm exhaust. The front fans are about as blinged as you can get, featuring addressable RGB lighting that's designed to work with lighting software from Asus, Gigabyte, and MSI – they all plug into a small PCB on the back of the motherboard plate, which in turn plugs into the motherboard. The rear fan also plugs into this, but is detached out of the box to make mobo installation a bit easier. All this lighting is controlled by a single button on the top panel IO – you can cycle through the case's own lighting patterns, or with a longer click hand it over to software control.

Tempered glass panels are all the rage these days, and Thermaltake's plonked two on the MT. Not only do you get a tempered glass sidepanel, which is a basically one big, black-lined slab with a metal from on each side, but the front panel features a tempered glass plate as well. There are subtle intake vents on either side of this panel, but overall it really lets the RGB fans shine. There's cool stuff everywhere – the top panel features magnetically attached mesh filter, while on the non-windowed panel there's a fine series of cutouts protecting another magnetic mesh panel.

The MT offers excellent stock airflow, enough to keep the case at a positive air pressure while powered up, and help keep dust out of the system, and you can put more fans on the top and sidepanels if you really need them. If you don't like relying on air-cooling, there's room for radiators on the front and side panels, up to 360mm and 240mm respectively.

To help with cable management there's a shroud cover the bottom of the case, with a cut out just large enough to show a portion of the PSU. This is also where a hidden drive caddy sits, with room for two 3.5in or 2.5in drives, and there's a bracket for another SSD bracket behind the motherboard plate. There's also an SSD bracket sitting on top the shroud, and both SSD brackets are removable for easy installation.

> **"The most striking thing about the case on first blush is its impressive cooling."**

There's also series of hexagonal cutouts in the right-hand side of the motherboard tray, which boosts either case airflow or supports the aforementioned 240mm radiator. And it's quite attractive, to boot!

About the only criticism – and I had to reach for it – I could make is that there's not a huge amount amount of space behind the motherboard tray. That's small beer, really; for the price you're paying the Level 20 MT ARGB has more than enough going to for it.

DAVID HOLLINGWORTH PC

+
- Striking RGB fans
- Elegant design
- Well-designed interior

–
- Maybe too much bling?

VERDICT: **RGB lighting we actually like, a roomy interior, and smart design make a strong case.**

9

GAMING HEADSET

Asus ROG Delta gaming headset

One of the best headset's Asus has ever produced.

PRICE TBC
www.asus.com

Asus is not the first brand I think of when it comes to high-end gaming audio. The company's been releasing some strong game headsets for years, but it's never been able to overcome a fondness for over-aggressive design and some complex, almost gimmicky hardware solutions. But the ROG Delta cans are a massive step forward. In fact, they make a case for being one of the more versatile set of gaming headphones we've seen in a long while.

The big draw card is not one but four DACs, each dedicated to a separate frequency range, which delivers a remarkable 127dB signal-to-noise ratio. Matched with a 20-40kHz frequency response, the Deltas offer some of the clearest and sharpest audio we've ever heard from a pair of gaming headphones. Now, you're only getting stereo here, and in some games you are going to feel the loss of either real or virtual 5.1 sound, especially games where tracking footsteps and gunshots – like most battle royale titles and other shooters. But on the other hand the quality of what you're hearing is amazing; gunshots are punchy and sharp, explosions rumble effectively, and you can still pick out a dozen other nuances in in-game audio.

The ROG Deltas are great for other media as well, and whether you're listening to music or watching a film, they will not disappoint.

And they're easy to use anywhere, too, thanks to a clever hybrid USB cable. The main cable is a USB Type-C connector, so will work handily with phones and many other modern devices like tablets and even Nintendo's Switch. If you're PC isn't modern enough to have a Type C port, there's also a cable with a USB A adaptor. In fact, if you like long cables for your headphones, this could be your default setup regardless.

Of course there's also the usual RGB lighting, because that's just what we do in 2018 now, but there's a handy switch to turn it off – which I personally would recommend, as it does leave the Deltas a little warm. You can fit either foam and leather-like earcups, or replace them with cloth ones, and the cups themselves are very comfortable, sitting entirely over your ear. Sound isolation is excellent, too, and the build quality similarly solid. The headphones feel like they can take a hammering, and I'd have no issues throwing the ROG Deltas into my luggage and hauling them around the world. They could take it.

> **"Sound isolation is excellent, too, and the build quality similarly solid."**

Apart from the slightly too warm RGBs, the only other niggle we have is that when hung around your neck, and the earcups sitting flit, they do tend to rather snugly grip your neck. In fact on my rather thicker than standard neck they feel like they're just a bit too... snug. Your mileage may vary, but I'll definitely be setting them aside rather than letting a set of headphones slowly choke me out.

What a way to go?

DAVID HOLLINGWORTH PC

+
- Great sound quality
- No overbearing bass
- You can turn off the RGB lighting

–
- Slightly uncomfortable to wear around your neck

VERDICT: **We can't say no to a set of headphones this versatile, and that sound this great.**

9

SPEAKERS

Razer Nommo Pro speakers

Aural power at your fingertips.

PRICE $849
www.razer.com/au-en

This 2.1 sound system is so impressive — surprisingly good for one that is being sold as a gaming speaker — that we've forgotten the fact that it sets you back $849) That's a high price tag for a set of gaming speakers, yes. But these are no ordinary gaming speakers.

It starts with its design. Both its two satellites and its subwoofer boast a matte black finish and an overall gamer's look that's subtle while still making a statement with RGB lighting that's not too flashy and not too loud. They're also neither overly big nor heavy; in fact, it's surprisingly light for a non-portable speaker system.

The Razer Nommo Pro isn't packed with all the bells and whistles, but that's the beauty of it – its best features are in its performance, and the small number of extras it does have address your exact needs.

Nommo Pro's best feature is its app, also called NommoPro, which is available for both iOS and Android devices. It doesn't offer as many controls as the software – the lighting control, for example, is not as specific and detailed, but it does most of the things that the Razer Synapse can do. Plus, it has a very simple UI and it lets you control it when you're across the room.

There's not much to it; the setup is pretty straightforward. It's a plug and play so besides installing the Synapse software and downloading the app, you just really need to link the satellites with the sub, connect your input, plug it in, and turn it on.

The Razer Nommo Pro boasts a lot of volume (small home theater-level, in fact), a subwoofer that has a lot of rumble, a wide soundstage, an excellent EQ, and of course, near audiophile-level sound quality. It's fast becoming one of the best gaming speaker systems, in our humble opinion.

Really, the only thing that's keeping it from being an audiophile quality speaker system is the fact that because of its warm, smooth sound, they're not the most detailed-sounding speakers. It's great for gaming, watching movies, and listening to music; however, it's probably not the best ones to use for editing and producing.

These speakers have a lot of power and can be thundering, but they're directional so you turn up the volume in one room and won't have to worry about disturbing others in the next room.

Not only do the Nommo Pro speakers offer a lot of power, it also produces a sound quality and a soundstage that audiophiles will appreciate. And even if it's not quite in that level, it's pretty damn close to it. Then there's the mobile app, which allows you to customize a number of settings using your mobile device for convenience.

> **"It's fast becoming one of the best gaming speaker systems, in our humble opinion."**

If you're a serious gamer that takes sound and gaming immersion seriously, this is the 2.1 speaker system you've been waiting for.

MICHELLE RAE PC

+
- Incredible sound quality
- Great for music and games
- Directional sound

-
- Almost good enough for production work - but not quite

VERDICT: **With the Nommo Pro, Razer touts gaming speakers that are fine tuned for the ultimate sound.**

9

WIRELESS GAMING MOUSE

Razer Mamba Wireless

Lightweight and untethered.

PRICE $169
www.razer.com/en-au

The Razer Mamba Wireless ($100) keeps everything that made the original Mamba work — the flawless wireless performance, the comfortable textured grips, the gorgeous RGB lighting — but streamlines and refines it.

The needless LED strip is gone, as is the bulky dock. The battery lasts much longer, and Razer's installed a more precise sensor. In short: The Razer Mamba Wireless has kept pace with the times. Although the mouse isn't quite as good as wireless gaming peripherals get, it's still near the very top of the pack.

If you ever got some hands-on time with the previous Razer Mamba, the new model's refreshed design will look and feel familiar. The mouse is fairly large and it's ergonomically designed for right-handed players. There are textured grips on both sides that look (bear with me here) a little like the striations on a whale's jaw. They're comfortable and help keep your hand where it's supposed to be. The Mamba Wireless supports both palm and claw grips.

The Mamba Wireless has seven buttons: a right button, a left button, a clickable scroll wheel, two dots-per-inch (DPI) sensitivity buttons and two thumb buttons. It's a similar layout to Razer's other high-end mice, and everything is where it needs to be.

Razer estimates that the Mamba Wireless' mechanical switches can endure 50 million clicks apiece. That's about 15 years of clicking. Naturally, we couldn't test that, but the buttons are all comfortable and have a pleasant spring to them.

The Synapse 3 software is fairly straightforward. There are separate tabs to manage button assignment, calibration, lighting and so forth. You can change the colors of LEDs in the scroll wheel and the Razer logo on the palm rest. You can customize profiles to automatically apply when you launch games. You can sync the Mamba Wireless with other Razer gear.

When it comes to in-game performance, the Mamba Wireless' performance was never in doubt. Thanks to its Razer 5G Advanced Optical Sensor, the peripheral tracks accurately and precisely.

I put the device through its paces with Overwatch, StarCraft: Remastered, Pathfinder: Kingmaker and World of Warcraft. In every game, the Mamba Wireless interpreted my commands instantaneously and correctly, whether I was raising D.Va's shields to defend

"Thanks to its Razer 5G Advanced Optical Sensor, the peripheral tracks accurately and precisely."

teammates in Overwatch or preparing a force of hydralisks to sweep through a Terran base in StarCraft.

The Mamba Wireless is exactly what a product update should look like. Razer kept everything that worked, ditched everything that didn't, and dropped $50 from the price in the process. The Mamba Wireless is not the absolute best wireless mouse on the market - theLogitech G900 Chaos Spectrum still has that mantle - but it's not very far off.

MARSHALL HONOROFF PC

+
- Precise performance
- Very comfortable
- Versatile

-
- Synapse software can be bit of a chore

VERDICT: **The Razer Mamba Wireless mouse features flawless wireless performance, comfortable grips and gorgeous RGB lighting.**

9

GROWTH MEDIUM: HOW WE OWE ALMOST EVERYTHING TO THE HDD

There's one key technology that has made possible the vast open worlds and stunning graphics of today's games. It's not the multicore CPU or the TFLOPS-tastic GPU. Rather, it's the humble hard disk drive, and the cheap, reliable, big storage it enables. Without it, today's games simply couldn't exist.

The first hardware upgrade I ever bought for my own PC wasn't a graphics card, or more RAM, or a new CPU. It was a hard disk drive. Assuming my biological data storage system is working properly, I seem to recall it was a Quantum ProDrive LPS, with a capacity of 425MB. It cost me $450 - oh and $65 for the dude at the shop to install it and set all the jumpers right.

There's an argument to be made that it's the hard disk drive that set the IBM PC apart from its competition.

Like machines from Apple, Tandy, Osborne, and others, in 1981 the first IBM PC didn't ship with an HDD. But hard drives were available right out of the gate from third party manufacturers. (Okay, so maybe it's really the open hardware standard that sets the IBM PC apart... moving on) and they were very much a popular option.

These early hard drives were extremely expensive, but they enabled owners to get into serious software development. The first IBM PC, the 5150, was unique because it could be configured cheap enough to compete with the Apple II, but power users could spec it up beyond family car prices with various upgrades. This meant the 5150 was a useful tool for commercial software development. And the HDD made handling this so much more convenient.

CD C:\

The hard drive was so popular and become so essential, IBM decided to ship one as standard equipment in its next-gen PC - the mighty XT. It was a Seagate drive, with 10MB of storage. That's not a typo - ten megabytes. Keep in mind that in 1983, the XT's 5.25-inch floppy drive could only handle disks with a 360KB capacity. Yeah. Storage has come on a LOT since then.

Today, we connect our internal HDDs via thin SATA cables that only go in one way with a satisfying click. In the beginning though, hard drives used a range of very complex connections and it wasn't until 1986 that Western Digital came up with the iconic ribbon cable and its IDE - or integrated drive electronics - standard.

It was called IDE because it integrated the hard drive's electronic controller into the hard drive itself. Previously, you needed a whole separate circuit board to handle the shuffling of data back and forth. This meant that you could now buy an entire storage system in 3.5-inch case about the size of a paperback, shove it in your PC, and get TENS of megabytes of relatively fast, reliable storage.

IDE quickly evolved into a more open standard called ATA. The Advanced Technology Attachment format made the most of IBM's new AT PC and its blistering 6MHz CPU.

The problem with ATA was that it used a flat ribbon cable that - on earlier drives anyway - it was all too easy to jam into the back of the HDD the wrong way around. It was also necessary to have one hard drive set to "Master" and all others set to "Slave" by physically setting jumper switches on the back of the drive itself. Many a 1990s-era PC supergeek spent long Saturday evenings peering at the badly-printed jumper settings diagram that came with his new HDD, trying, literally, to figure out which way was up. Please note: if you set the jumpers wrong, the HDD wouldn't start.

ROOM TO MOVE

The IBM AT had a 20MB hard drive. Rich lairs would upgrade this to a massive 40MB HDD. The first PC my family bought - an Osborne 486SX, you may recall - had a huge 125MB HDD.

> "The Advanced Technology Attachment format made the most of IBM's new AT PC..."

▲ Now that's a computer!

▲ The humble IDE cable.

▲ I really miss those early Xbox controllers...

DISC OR DISK? BOTH, ACTUALLY

Okay let's sort this out once and for all. When IBM developed cheap, removable, secondary storage for computers in the late 1960s, the neologism "diskette" was born. It's a play on disc and casette, see. Etymologically, "disk" is the older English spelling for a really flat cylinder and "disc" is the preferred medical spelling for bits of your spine.

Today, "disc" refers to optical media - DVD, Blu-ray, and CD. While "disk" is used for magnetic storage. As for the word "drive", well the original diskettes needed something to spin them and read the information - and any machine that imparts motion to something loaded into it is traditionally called a "drive".

Interestingly, the disc/disk distinction predates computers. At the BBC, transcription records (of interviews etc) were called "disks", while commercially-produced gramophone records were called "discs".

Well, I say huge: I still had to juggle game installs, deleting Dune II if I wanted to play Strike Commander, hesitating for months about deleting Star Control II because even though I'd finished it, I'd put so many HOURS into that savegame, you know?

Eventually a new millennium dawned, and from the year 2000 we settled on SATA, the serial advanced technology attachment, and Moore's Law was unleashed upon storage in a big way.

When I went to a Pentium III in 1999, I leapt forward into the gigabyte age with an 8GB C: drive, I think it was a Western Digital.

Since then, the capacities have become increasingly superlative. The first terabyte drives came in while I was still editor of PCPP. For some years my OS SSD was a 250GB unit; now it's 1TB. My archive is a single 10TB HDD from Seagate. Right now it has 8.57TB free. And 10TB isn't even the biggest drive you can get.

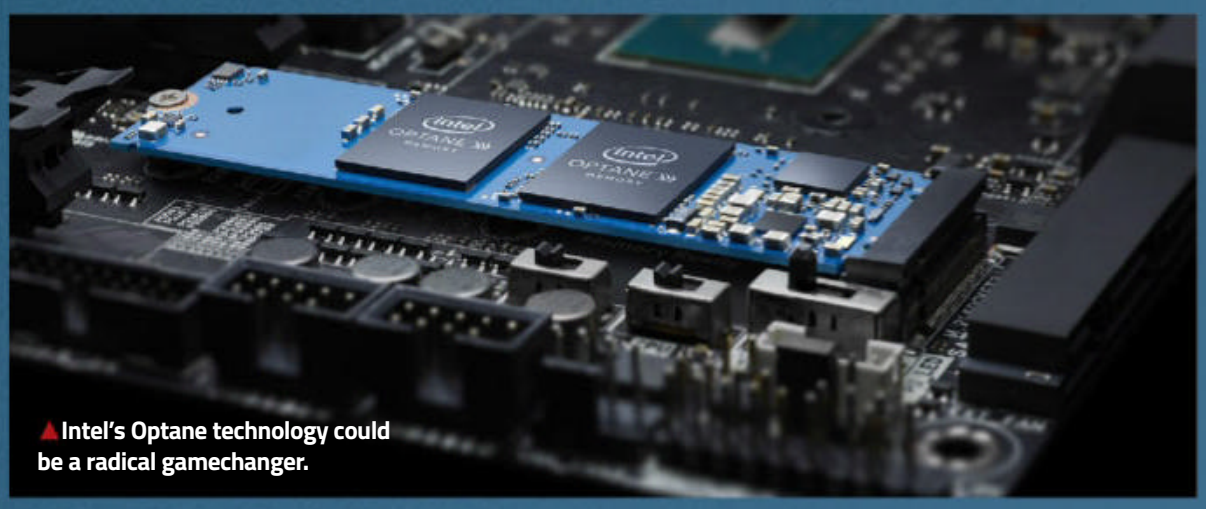
The HDDs I've spoken about so far are all magnetic diskettes, of course. Nowadays, magnetic storage is cheap (on a cost per megabyte basis) and fairly reliable.

But solid state drives are quickly moving in to make magnetic HDDs obsolete. Five years ago an SSD was a hardcore component, for the super-rich. Today, buying a PC without an SSD to run Windows is unthinkable.

A FRIEND INDEED

As early as 1990, PC gamers were able to take HDDs for granted. Need a break from gaming? Just save your progress to the hard drive! Not for us the "please don't turn off!" note scrawled in a desperate hand and taped to the middle of the TV, by some hapless PlayStation gamer in the middle of an epic Final Fantasy VII playthrough.

When Microsoft finally admitted that its Xbox project was a real thing in 2002, PC gamers weren't surprised to learn the first console would ship with an HDD on board. But other commentators wondered what exactly was the point of a games console with 10GB of onboard storage, especially since the original Xbox supported memory cards too.



▲ **Intel's Optane technology could be a radical gamechanger.**

Almost as soon as the Xbox launched though, it became obvious. The hard drive lets you do an amazing amount of stuff. Xboxes were chipped not just to pirate games, but to support even larger HDDs, so they could be used as media streaming boxes. In 2003. See - PC keeps you so far ahead of the curve.

Flip to 2018 and we complain about the size of the HDDs offered in new consoles. "You're saying it costs $500 and it doesn't even have a 1TB hard drive?!" Times, indeed, they have changed.

Back in the early part of the 21st century, HDD selection was all about spin rate - was 7200rpm enough or would a true hardcore PC gamer stump for a 10,000rpm enterprise drive? - and cache size. Now, we just buy whichever SSD seems the best value.

But there has been the best part of 50 years of amazing R&D hurled at the humble hard drive. From 3.75MB drives the size of multiple fridges (and costing multiple small homes), to fiddly 425MB HDDs with horrible ugly grey ribbon cables, to ultra-high capacity archive drives that cost less than $200, and now to the M.2 form-factor SSDs that redefine speed and take up barely any more space than RAM.

So what's next for the HDD? IBM passed the torch decades ago - Intel is where you should turn your attention. Its Optane tech is interesting stuff; after all it's the first storage tech in decades that doesn't use electrons to encode information, it used some kind of change in the phase-state of the physical memory itself... whatever, Optane is fast, is the point.

In fact Optane is potentially so fast it could make the whole idea of "secondary storage" obsolete. Right now we have RAM for working, and hard drives for saving. Optane (or one of its competitors) could bust down that wall at last, and the gaming PC you buy in, say, 2025, might no longer draw a distinction between RAM and storage.

Meanwhile, if you want a real sense of how the PC's hard disk drive has so thoroughly dominated not just gaming, but almost all consumer technology in general, just look around. The number and type of devices that are sold WITHOUT some kind of onboard storage capacity is getting smaller by the day.

In 2010, the fact that my TV didn't have internal storage was, like, uh, why would a TV have a hard drive? Today, having to plug in an external HDD to record shows using the TV's own DVR app is just straight up annoying.

When I bought that $450, 425MB HDD back in 1997, I had a lot of ideas about what future tech would be like. But "it's so annoying that this expensive TV doesn't have a hard disk drive" wasn't one of them.

And yet... here we are.

ANTHONY FORDHAM PC

INVENTORY

THE BEST BUILD FOR EVERY BUDGET

CONTROLLERS

Sometimes you gotta go mouse + keyboardless

Xbox One Controller

$69 *microsoft.com/en-au/*

Plug and play meets comfort. Every PC needs a controller and this is the best

Steam Controller

$89.95 *store.steampowered.com*

There's a bit of a learning curve, but it's great for couch gaming

MODEM ROUTERS

For all rational budgets

BUDGET

Synology RT1900RT

$169 *synology.com*

Good performance and delightfully easy to set up and manage

Synology Router RT2600ac

$328 *synology.com*

Perfect for all but the biggest families, has unusually strong transmission strength

PREMIUM

Asus ROG Rapture GT-AC5300 Gaming Router

$695 *asus.com.au*

Super fast and future proof, this is a gaming router that takes no prisoners and offers no compromise.

LAPTOPS

Gaming on the go

BUDGET

Dell G3 15

$1,599 *www.dell.com*

8th-gen CPU and a reasonable GTX 1050 is a bargain basic gamer

PREMIUM

Asus ROG Strix G703 GL

$5,999 *asus.com.au*

The best of everything

MINI

For lounge room gaming and streaming

CPU + COOLING

Intel Core i5 7500 w/ stock cooler

$235

intel.com

MOBO

Asrock Z270M-ITX/AC Motherboard

$185

asrock.com.au

GPU

Asus DUAL-RX480-4G

$338

asus.com.au

MEMORY

16GB DDR4 Corsair Vengeance LPX

$249

corsair.com/en-au

STORAGE

Samsung SSD M.2 2280 NVMe 250G 960 EVO + 2TB HDD (any)

$169 + $50 *samsung.com/au*

CASE

Fractal Design Define S Nano

$115

fractal-design.com

PSU

SilverStone SFX Gold 500W SX500-LG

$110

Silverstone.com

SOUND

Your sound system

What you paid for it

DISPLAY

Your TV

What you paid for it

KEYBOARD

Roccat Sova

$199

www.roccat.org

MOUSE

Roccat Kone EMP

$99

www.roccat.org

TOTAL: **$1,749**

BUDGET

The perfect entry-level gaming PC

CPU + COOLING

AMD Ryzen 5 2600 + Wraith cooler

$235

amd.com

MOBO

Gigabyte B450 Aorus Pro Wifi

$229

gigabyte.com.au

GPU

MSI RX 580 Gaming 8GB

$399

msi.com

MEMORY

G.Skill Ripjaws 4 DDR4 2400MHz 16GB Kit 2x 8GB

$279 *gskill.com*

STORAGE

Sandisk SSD Plus 240GB

$85 *www.sandisk.com.au*

CASE

Corsair Carbide SPEC-02 Mid Tower Gaming Case

$80 *corsair.com/en-au*

PSU

SilverStone Strider Essential 500W ST50F-ESB **$55**

silverstone.com

SOUND

Cougar Phontum

$69

cougargaming.com

DISPLAY

AOC Q3279VWFD8 75Hz Freesync 32in IPS

$299

au.aoc.com

KEYBOARD

Tesoro Tizona G2N

$49

tesorotec.com

MOUSE

Cooler Master MM530

$59

coolermaster.com

TOTAL: **$1,829**

Once again we're updating one of our key builds with a new video card, though the reasoning is slightly different this time around. We would have been quite content leaving a GTX 1080 card in the Performance build, given that the GTX 2070 - reviewed this issue - is not quite on the boil when it comes to price/performance ratio. However, you just can't get GTX 1080s at the moment, so that means MSI's new card slots in, bringing the Performance build up near $5,000.

PERFORMANCE

Most bells and whistles, without breaking the bank

CPU + COOLING
Intel Core i7 8700K with Noctua NH-D15 CPU Cooler
$529 + $115 *intel.com*

MOBO
Asrock Z370 Taichi
$284
asrock.com.au

GPU
MSI GeForce RTX 2070 Gaming Z 8G
$1069
au.msi.com

MEMORY
G.Skill RIPJAWS 4 32GB KIT 4X8GB
$599
gskill.com

STORAGE
2TB HDD (any) + SAMSUNG 500GB M.2 NVMe SSD 960 EVO
$319 + $50
samsung.com/au

CASE
Fractal Define R6
$209
fractal-design.com

PSU
Be Quiet! Dark Power Pro 11 850W Power Supply
$279
bequiet.com

SOUND
Sennheiser PC 373D
$329
en-au.sennheiser.com

DISPLAY
Asus ROG Strix XG32VQ
$859
www.asus.com/au

KEYBOARD
Cooler Master MK750
$189
www.coolermaster.com

MOUSE
Roccat Kone Aimo
$99
www.roccat.org

TOTAL: **$4,929**

THE BEAST

When overkill is barely enough...

CPU + COOLING
AMD Threadripper 2 2990WX + Corsair H105
$2,699 + $145
amd.com

MOBO
Asus ROG Zenith Extreme
$559
asus.com.au

VIDEO
Nvidia GeForce RTX 2080 Ti
$1,899
nvidia.com/en-au

MEMORY
4x8GB G.Skill Trident Z RGB quad-channel 3466MHz DDR4
$745
gskill.com

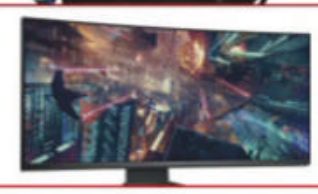
STORAGE
Samsung 960 Pro 2TB + Seagate Barracuda Pro 10TB
$1,589 + $599
samsung.com/au

CASE
Thermaltake Level 20 GT
$369
thermaltake.com.au

PSU
Corsair RM1000i Special Edition
$279
corsair.com/en-au

SOUND
Astro A50
$399
www.astrogaming.com

DISPLAY
Alienware AW3418DW
$2,099
alienware.com



KEYBOARD
Corsair K95 Platinum RGB
$249
corsair.com/en-au/

MOUSE
Razer Deathadder Elite
$95
razerzone.com/au-en/

TOTAL: **$11,725**

Tri-band data rate of of 5334 Mbps
Ultra-fast 802.11ac Wi-Fi router
Smooth 4K/UHD video playback

2.4 GHz 1000 Mbps
5 GHz-1 2167 Mbps
5 GHz-2 2167 Mbps

Exclusive Built-In Game Accelerator

HOTWARE 274
with Terrence Jarrad

01 PC Classic
$150 ▪ Unit-e
unitetechno.com

The mini console lineup is soon to include a mini DOS PC, assuming its upcoming crowdfunding campaign goes well.

POWERED UP: Plug in to TV, plug in your controls, and play 30 DOS-era games, just like you could 30 years ago!

PLAYED OUT: WOW is this thing hideous – like unless you have a bunch of actually old, yellowing beige boxes in your house, this will look absolutely terrible. We're not sure this is answering a real world need either, with retro games compatible with modern systems up on Steam and other distributors.

01 My Skin Track UV Sensor
$90 ▪ Apple
www.apple.com

Slip slop slap slide seek is a weird alliteration, but Australians have grown up with some variation of it for decades, all because the sun here will burn us to a crisp if we let it. La Roche-Posay's UV sensor can tell you how crispy you'll get.

POWERED UP: It's small – about the size of a shirt button, clips on to your clothes, hooks in to a companion app, and tracks your personal UV exposure and it will also show info about pollen, pollution, and humidity for your location. After consuming this data, it'll spit out some skincare tips catered to you!

PLAYED OUT: Nothing bad to say here – maybe you might lose it? But skin care creams will cost way more than this thing over your lifetime. Prevention is better than cure!

01 Keurig Drinkworks Drinkmaster
$350 ▪ Keurig
www.drinkworks.com

Some days you want to hit the gym or go for a run, and while FitBit is great for that, other days you just need a stiff drink. Say hello to the Drinkworks Drinkmaster from Keurig.

POWERED UP: Cocktails, served chilled, in less than a minute. Need we go on? Okay fine. Serves some 13 cocktails from vodka lime soda to long island iced tea, also does beer and sangria.

PLAYED OUT: You might need one of those services like Shipito, to get one in this country.

01 FitBit Charge 3
$229 ▪ FitBit
www.fitbit.com/au

The latest iteration in FitBit's Charge series.

POWERED UP: As well as the stuff the Charge range has done before (heart rate monitoring, sleep tracking, calorie burn, exercise tracking, etc) the main additions this time around are weather and calendar updates, smart phone alerts, paypass functionality, and you can finally swim with one as it's water resistant to 50m!

PLAYED OUT: Some people's skin has a reaction to the rubber used in the bands.

01 LG HU80K Projector
$4000 ▪ LG
www.lg.com

This is the 4k projector for people who want one, but don't want to deal with the hassle of installation.

POWERED UP: Clever design allows it to easily be placed on the floor or a table, instead of being ceiling mounted. Also has LG's smart TV system, so you can connect it to wifi and play direct from streaming apps like Netflix without even needing to connect a PC, though with HDMI, USB, Ethernet, and optical out, you can definitely still wire it up as needed.

PLAYED OUT: As a laser projector, once it's spent it's ~20,000hr life, that's it. You can't just replace a bulb and get it working again.

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BOWLING FOR EUROCORP

How do you get away with releasing a super-violent real-time tactical shooter, where trenchcoat-wearing cyborgs blow away civilians without consequence, where people are depicted on fire and screaming, and mind-controlled innocents become human shields... without it becoming the focus of a massive public outcry? Simple: release it on PC in 1993.

SYNDICATE

DEVELOPERS BULLFROG
PERSONALITIES PETER MOLYNEUX, SEAN COOPER
RELEASED 1993
NUTSHELL ISOMETRIC REAL-TIME TACTICAL SQUAD-BASED ULTRAVIOLENCE, TOTAL AMORALITY, SEMI-DESTRUCTIBLE ENVIRONMENTS, UPGRADE YOUR SQUAD, GET GAUSS GUNS, USE CHEAT CODES TO FINISH THE FINAL MISSION (ATLANTIC ACCELERATOR), ALSO SOMETHING ABOUT CORPORATIONS PUTTING CHIPS IN PEOPLE'S HEADS. YOU KNOW, GOOD SOLID CYBERPUNK STUFF, EARLY 90S-STYLE.

Videogames have been controversial since the early 1970s. Ever since Atari decided to build an arcade cabinet where the joysticks were replaced by pink domes designed to look like boobs which the players... twisted around? (Fact-checks doubtfully... yep, it's true)... certain types have made it their mission to tell us videogames will destroy the Earth.

But grotesque torture game Chiller was a 1986 arcade cabinet, and Death Race only had stick-figures, so proper ranting-in-the-press controversy had to wait for 1992, which hit the moral majority with the double-punch of Doom and Mortal Kombat.

One of the clearest signs of gaming's coming-of-age as an art-form was when it took over from "violent movies" as the go-to scapegoat. You know, the thing to blame every time another American goes nuts with one of the easily purchased high powered firearms they have over there.

Like us, you can surely rattle-off the titles of the games that copped the lion's share of the blame: Mortal Kombat had the gory fatality moves; Doom had demons screaming and collapsing in piles of blood and gore; Carmageddon let you run over pedestrians; Postal was, well, Postal; even Kingpin copped some flak for its encouragement of, I guess, brutally murdering the violent gang that was trying to brutally murder your violent gang.

But there's a game missing from that list. A game that made you dress four badasses in black trenchcoats, equip them with high-powered weaponry, and then make them shoot up public spaces in pursuit of various mission objectives - and if a few (or a hundred) civilians got caught up in the firestorm, well the game just didn't care.

THE OLD ULTRAVIOLENCE

This was what made Syndicate, Bullfrog's 1993 cyberpunk(ish) indulgence, so compelling. That you - the operator of a team of agents, out to further the interests of your megacorporation - were given the kind of power and influence to be able to cut absolutely sick in a major metropolitan area with no consequences... assuming your agents made it out alive.

It made Syndicate a very different kind of "violent" to games like GTA, Postal, or even Carmageddon. In those games, killing innocent people had an effect. Go nuts in GTA, pretty soon you have actual tanks chasing you. In the original Postal, the player-character is clearly insane, and ends up in an asylum. And in Carmageddon, the entire premise is so bonkers that even Australia's pre-R18+-equipped ratings board cleared it for publication, pedestrian blood and all.

But out of all of these, only Syndicate replicates what it's like to genuinely not have to care about "collateral damage" and the lives of innocent bystanders. It goes even further: The game includes a device called a Persuadertron that causes civilians to gather around your four-'borg team in a tight cordon, grabbing weapons off fallen foes. Target a new enemy, and the civvies will open-up or even try to take them out with their bare hands, providing a useful hit-point soak for your guys. The civvies work as human shields, basically.

Far Cry 2, that fire animation is NOT.

POWER OF LIFE AND DEATH

And yet, no matter how many civilians you kill, or spare, there's no real impact on the mission. While this is fundamentally due to the technical limitations of PCs in 1993, it paradoxically forces the player to make actual moral decisions. You don't just not kill people because sparing civilians will prevent more baddies from spawning. Rather, the reason you choose to not blow up passing cars is because the sight of people crawling out of the wreckage, on fire, and screaming, feels bad, man.

Certainly for this gamer, Syndicate is the first time I can remember watching a panicking sprite-person run jerkily right underneath the crosshair of my minigun... and me deciding not to shoot them. To be clear: shooting them would have made no difference to the mission. Shooting them

would have done nothing more than replace their badly-animated panicky-run sprite with a dead-on-the-ground sprite. And yet, I didn't shoot.

It was the lack of consequence that stayed my hand, the knowledge that it was a real decision. Spare them not because it was in my interests, but spare them because it's the right thing to do.

Syndicate, even with its 640x480 borderline-abstract graphics running in 16-colour with dithering to give the illusion of more colour on graphics chips that couldn't handle those kinds of crazy resolutions, made early-90s gamers grapple with real moral choices - and it's not just kill or not-kill.

Sure, it's easy to spare a civilian when you're just walking down the street and no alarms have been raised and your team is not under fire. But what about when everything is going off and there are dudes with flamethrowers coming for you? Can you justify risking one of your squaddies - dead cyborgs were very expensive to replace - simply for the sake of something that is, in many ways, just a background animation?

Nostalgia is all well and good, but... the graphics hardly stand up today.

ROTTING OUR MINDS!

Given all this, and given the way the player's team all wear long black trenchcoats, it seems incredible today that Syndicate isn't on the list of blame-games.

Perhaps it was the timing. Back in 1993, there hadn't been a mass shooting in a US school since Charles Whitman climbed a tower at the University of Texas in 1966. It remained the deadliest school shooting in the US until Columbine, in 1999.

In other words, there wasn't that much violence to blame games for.

Mortal Kombat and Doom were targeted because they were monstrously popular, and had "realistic" graphics (for the era) and their who think all new media and art forms are here to destroy the world.

But I like to think it's a bit more than that. See, Doom you can look at the box, or see a kid play it for 30 seconds on a demo 386DX at Brashs, and go "Aaiee demons and blood! Ban it!"

Syndicate, while basic by today's standards (and the standards of its spiritual successor, the Kickstarter-backed Satellite Reign), was one of those games that straddled the line between proper PC hex-grid wonk turn-based strategy, and arcade shooter.

In some ways, Syndicate did for action-strategy what Dune II did for RTS. Neither game was technically the first in its genre, but both streamlined - while avoiding dumbing-down - the gameplay, paring it back to something that had a level of complexity that could only work on PC.

HOW BASIC ARE YOU?

Watching Syndicate playthroughs on YouTube today, it looks even less complex than the average free-to-play mobile game. Equip your dudes with a couple of guns, run around an almost-empty town shooting everything until the mission suddenly ends.

Yet back in 1993, the mere fact you could run around town, in any direction, and assassinate or kidnap or convert targets, or... well, it was pretty much just those three options... while choosing to slaughter, spare, or even temporarily enslave the general populace, was mind-blowing.

It also provided a lesson that perhaps too few developers who came after it followed: if you don't want people complaining about the violence in your game, just make a game you actually have to sit down and play before you see any violence.

ANTHONY FORDHAM PC

EARLY MOLYNEUX EFFECT

The history of PC gaming is richer for the fact that Peter Molyneux is part of it. We've previously spoken of his outlandish claims for what Black & White would let the player do, and he later went on to make similar unbackable claims about Fable, and something called Godus that nobody cares about anymore.

Thing is, the Molyneux Effect (in which a developer talks up amazing features that sound impossible to implement, and then when the game comes out, are revealed as having been impossible to implement) was in full force for Syndicate. It's just that back in 1993, not as many people were exposed to it.

Molyneux talked up the game's open world, and the way everyone in the world of Syndicate had a CHIP implanted in their heads that controlled their emotions, or something.

The claim was that the emotional state of each NPC would be tracked, and their behaviour would change based on how much you (in the form of four trenchcoated cyborg killers) disturbed, you know, the peace.

Stroll casually into town, everything's neat as a pin, cars all neatly parked. Start shooting up the joint, blow up a couple of police checkpoints, and civvies would freak.

Molyneux said they'd even run home, get their car keys, jump in their car, and try to bug out. You, of course, being a psychopathic gamer, would blow up the car as it passed.

While this kind of AI ain't no thing today, back in 1993 the sheer lack of RAM in the average PC made it fantastical. And it was.

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ISSUE 275 ON SALE

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Tom Clancy's The Division® 2 is not yet rated. Resident Evil™ 2 is rated ESRB "M" for Mature, PEGI 18 and USK 16. Devil May Cry™ 5 is Rated ESRB "M" for Mature, PEGI 18 and USK 18. May contain content inappropriate for children. Please consult with ESRB.org, PEGI.info, or your regional game ratings organization.

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